small air forces observer

vol. 36 no.1 (141)
July 2012

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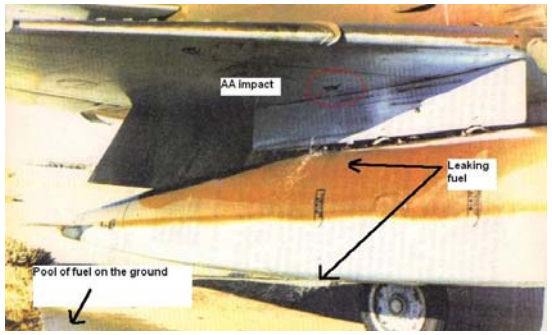
Argentine Skyhawks during the Malvinas Conflict
The Korean People's Air Force: Part 5
Dutch East Indies PBY Catalinas
Saudi & Kuwaiti EE Lightnings
Top Secret WWI Bombsight

vol. 36 no.1 (141)
July 2012

C-212 Cervera's plane during the war. Note overpainted brown yellow ID bands. (Fernando C. Benedetto)

C-222 The famous Tordillo during the war. (Fernando C. Benedetto)



C-225 on the ground leaking fuel after the mission on June 13th. Yellow ID bands on the wings can be seen overpainted in dark brown. (Pablo Carballo)

C-235 Mayor's plane on June 13th. Note snow on the ground during last days of the war. (Fernando C. Benedetto)

Tucu Cervera on the left and Pipi Sanchez on the right in front of C-236 in an einforced shelters at their base in the south. (Tucu Cervera)

Pipi Sanchez (left) and Tucu Cervera (right). in their pilot's room. Note the helmets with the white and red reflective bands and their yellow scarves that identify them as pilots of V Brigada Aerea. (Tucu Cervera)

Sea King's replacement of blade. (Tucu Cervera)

Dellepiane's plane streaming fuel on the return leg. (Hernan Casciani)

SMALL AIR FORCES OBSERVER

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COVER COMMENTS: Farman F.40 LA37, used for testing the top-secret Dutch Groeneveld Meijer bombsight. seen at Vlissingen, likely late 1917. The officer is the pilot, Lt. J.N.Wallast. See the article by Frits Gerdessen in this issue of SAFO.

NEI Catalina Y38 (via Maas)
See article on Netherlands East Indies Catalinas elsewhere in this issue of SAFO.

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AUSTRALIA

AUSTRALIAN PLASTIC MODELLERS ASSOCIATION (APMA, PO Box 51, Strathfield, NSW 2135; 4 issues airmail A$40. International payment is best handled via Paypal at iansharyn@bigpond.com.au). Web Site: www.apma.org.

3-11(28 pages) "Consolidated Y-boats in the Netherlands East Indies: September 1941 – March 1942" 5 pages including one color photo and a b/w profile drawing. "RAAF Catalina Colours: Part 3" 9 pages including one photo and 9 profile drawings with generic top- and bottom-views. "USN Mid War Two Tone Grey PBYs: A selection of Pacific based PBYs" 6 pages including 8 b/w profile drawings with generic top- and bottom-views. "Catalina Gallery: Miscellaneous details of restored PBYs" 4 pages with 14 b/w and 5 color photos. Two color photos of PBY-6A 'VH-CAT' of the Catalina Flying Memorial Group.

4-11 (28 pages) "Airbus A330 MRTT" 6 pages with 19 photos of the RAAF's newest aerial tanker. "LIMA 2011" 7 pages with 15 b/w photos (Malaysia Hawk 100, MB-339C, CN-235, MiG-29N, AS 365N3, AS-555, Lynx, Mil-17, & S-61; and Singapore S-70B) and 7 color photos (Malaysia Su-30MKM, MiG-29N, & F-18D; Thailand Gripen; France Rafale; and Singapore F-16D).

AUSTRIA

ÖFH NACHRICHTEN (Oesterrichishe Flugzug Historiker, Pfenninggeldf 18/2/14, A-1160 Wien. Write for free sample.)

1/12 (40 pages) "Zlin Z 126 Trener 2A-AM" 6 pages on restoration of of Z 126 in Austrian AF colors including 15 photos. Color photo: Austrian AF OH-58 Kiowa.

CZECH REPUBLIC

Revi These and other issues are available from SAFCH Sales Service: $7.00 per issue plus postage.

#7**1** "Pribeh Nesheru" 5 pages, 6 photos of Israeli Mirages. "Italsti Sokoli nad Albionem" 7 pages, 8 photos, color 3-view & profile, kit survey of Italian CR.42 over England. "Ceskoslovenska vojenska vicemotorova letadal ve sluzbach Luftwaffe" 8 pages, 22 photos, 5 color profiles of Cz. MB.200 in Lufteaffe markings. "Whitey Feightner: LCDR Rick Morgan" 3 pages, 3 photos, 4 color profiles of USN Hellcats. "Bf 110 G-0/G-2 vykres" 6 pages of scale drawings.

ENGLAND

AVIATION CLASSICS, The address and cost details are all on their website: www.aviationclassics.co.uk, as is an ordering system for printed or on-line issues.

#5 English Electric Lightning "Riding the Magic Carpet" 4 pages on Saudi and Kuwaiti Lightnings including 9 photos.

#8 Boeing B-17 Flying Fortress "The Israeli Air Force and the B-17" 2 pages including 3 photos and a colour profile drawing.

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FRANCE

AVIONS: Toute l'Aeronautique et son Histoire (Lela Presse, 29 rue Paul Bert, 62230 Outreau, France. 71 euro for 6 issues). Website: www.avions-bateaux.com. E-mail: contact@avions-bayeaux.com.

#186 Mars-Avril 2012 (94 pages) "Un as sur D.520: Hubert de Salaberry (1)".17 pages including 27 photos and 6 color profile drawings [Ms.230, MS.406, D.520 (3), & Bf 109] "«Myrsky« la tempête finlandaise" 16 pages including 26 photos and 5 color profile drawings, & a 4-view scale drawing. "Macchi C.202 contre P-38 Lightning: premier duel dans le ciel de Tunisie" 12 pages including 26 photos. "Aux confines de l'empire … Les hydravions des avisos coloniaux (3)" 16 pages including 18 photos and 5 color profile drawings [Gourdou-Lescurre 832 (4) & Potez 452] "La Fortress volante «Bir Hakein» fut l'unique B-17 de l'Armée de l'Air" 8 pages including 18 photos and 3 color profile drawings. "1914-1918: la chasse française en Orient (fin)" 17 pages including 36 photos, one map, & 6 color profile drawings [Nieuport 24 (2) & Spad 7 (4 including one in Serbian colors)].

GERMANY

IPMS Deutschland Journal. Website: ipmsdeutschland.de. Subscription: Europe 36 €; all others 40 €.

Jahrgang 44/2 (40 pages) "MiG-23MK Floger-B" 5 pages on building the 1/32-scale Trumpeter kit including 10 photos of the model in Libyan markings. "Transall C-160 '50+56'" 6 pages with 22 color photos (14 of interior and exterior details). "Kiebitz, Mucke & Co," 4 pages including 13 photos of German UAVs. Other aviation-related articles include: Revell's 1/72 Ju-88A-4. Authentic Airliners' 1/144 Canadair CRJ 200, Zvezda's 1/144 Suchoi Superjet, and Revell's 1/96 Apollo 11.

ITALY

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Gennaio 2012 (100 pages) Color photos: Algeria Yak-130 'NY-11'; Ghana Airbus Military C-195M; Malaysia Eurocopter EC725; & India EMB 145 AEW&C. "Italia in Afghanistan" 12 pages. "Incidenti Militari" 1½ pages including 5 photos (Pakistan JF-17, Uganda Su-30, & USA Sentinel UAV on display in Iran).

Febbraio 2012 (100 pages) Color photos: Bulgaria C-27J; Serbia UTVA H-54 Pasta; & India Tu-142ME. "Lo Yak-130 in servizio" 6 pages including 11 photos. "Incidenti Militari" 1½ pages including 7 photos (Indian Sea King & Su-30, Uganda An-2, Saudi BAe Hawk, Colombia Cessna TU206G, & Sudan Mi-24.

Marzo 2012 (100 pages) Color photos: Libya Il-96 '5A-DRS', Antonov An-26 '5A-DOW, & Locklheed 100 '5A-DOM'; North Korea MiG-29; and China Harbin Y-12 'B-3807'. "Gli Eurofigter austriaci" 6 pages including 8 photos. "Il Ro.37 bis a Volandia" 4 pages including 9 photo of a/c restored to Italian colors from wrecks found in Afghanistan. "Incidenti Militari" 1½ pages including 7 photos (Colombia Bell 412, Bolivia Xian MA-60, India HAL Dhruv, Japan DHC-8, Paraguay Raven 'A-01', & Taiwan AT-3).

Aprile 2012 (100 pages) Color photos: Libya Mirage F.1 (new national roundels); Macedonia Mi-8; & Tanzania Harbin Y-12. "Le pattuglie dell'Asia" 9 pages on 17 Asian acrobatic teams (with multiple photos of each). "Il racconto dl Frank Tinker" 4 pages on Spanish Civil War ace including 5 photos and 2 color profile drawings. "Incidenti Militari" 1 page including 3 photos (Peru Zlin 242; Bosnia Mi-8).

The Last Attack of the Halcones

Pablo Calcaterra

On June 13th 1982, the A-4B Skyhawks of the Argentine Air Force's 5th Air Brigade (Brigada Aérea) carried out the last attack by Argentine fighter-bombers during the Malvinas/Falklands War. This is the story of this mission.

The target of the Halcones (Note 1) was a concentration of British troops on the northeast face of Twin Sisters north of Puerto Argentino/Stanley. The Argentines had detected a large concentration of troops and helicopters along with heavy electronic communications in the area. It had to be an important target. They were right because Major General Jeremy Moore was at the 3rd Commando Brigade HQ planning for the final offensive of the war. The mission consisted of: (Note 2)

OF 1319. Callsign: Nene. Four planes armed with three parachute-delayed bombs. Nene 1 (C-230 Capt. Antonio Zelaya), Nene 2 (C-227 Lt. Omar Gelardi), Nene 3 (C-212 Lt. Luis Cervera), and Nene 4 (C-221 Alferez (2nd Lieutenant) Guillermo Dellepiane)

OF 1320. Callsign: Chispa. Four planes with the same armament. Chispa 1 (C-222 Capt. Carlos Varela), Chispa 2 (C-250 Lt. Mario Roca), Chispa 3 (C-235 Lt. Sergio Mayor), and Chispa 4 (C-237) Alferez (2nd Lieutenant) Marcelo Moroni).

Dellepiane's plane (Nene 4) had a mechanical problem. He changed to the spare aircraft, C-225, but was too late to takeoff with his flight. He was already strapped into C-225 when he heard that Capt. Varela (Chispa 1) was getting ready to takeoff, and he asked for permission to join Chispa Flight. Permission was granted and, as a consequence Nene Flight had only three planes and the trailing Chispa flight, had five planes (the leader in the center with two wingmen on each side). Dellepiane called it a "symmetric formation"

They soon reached their refueling point with the KC-130, but during the refueling process, jet fuel splashed all over Capt. Zelaya's plane (Nene 1). It entered the air intakes causing an explosion in the compressor. He broke contact with the Hercules and returned to base. "Tucu" Cervera (Nene 3) took command of Nene flight, and Dellepiane rejoined his original flight as Nene 4.

Although Nene Flight was originally supposed to lead the attack, Capt. Varela (Chispa 1) having more experience than Lt. Cervera (Nene 3), asked Lt. Cervera if he would allow Chispa Flight to lead the attack. Cervera agreed and Nene Flight took up a position 30 seconds behind Chispa Flight.

Their route took them to the north of the islands were a 90 degree turn south put them on a straight line to the target area. They descended thru five layers of clouds. The leader of the trailing flight, Cervera (Nene 3), lost sight of Chispa flight many times…but as he was keeping a uniform rate of descent and direction using the Omega system, he managed to find himself above and behind the leading formation every time they broke out of the clouds.

Before reaching the islands, they were flying at zero feet in areas where it was raining heavily. This made it difficult to follow Capt. Varela (Chispa 1) - his light grey Skyhawk was perfectly camouflaged in the rain! (Note 3) The only way his wingmen were able to see Varela's position was to follow the white wake C-222's jet exhaust was making on the surface of the sea. It was like following the waves made by a speedboat!

Soon, they were flying over the islands. They were so low that radar could not find them. Suddenly, they heard the Argentine radar operator at Puerto Argentino/Stanley calling:

"Is there anyone in the air?"

"Chispa" Varela sharply answered.

The radar operator warned that there were four British CAPs in the air located as follows: one each at Mount Pleasant, one at the north entrance of San Carlos/Falkland Sound, one east of Stanley/Puerto Argentino, and one at the south entrance of San Carlos/Falkland Sound.

In other words, they were surrounded. But Capt. Varela reasoned that if the Argentine radar was unable to see them…neither could the British. Varela thought: "I won't give up when I am only two minutes away from the target". So he pressed on. Cervera (Nene 3) suggested that after attacking they should retrace their steps, as it would give them a

better chance to escape. Capt. Varela accepted the idea.

Shortly afterwards the Argentine radar operator told the Skyhawk leader that two of the British CAPs were flying towards them. It seems that the British troops on the ground had passed on their position to the Harriers. It was a race against time and the trap was closing…

Halcones to the Attack

The Skyhawks were following every valley and hill in their quest of not being picked up by enemy radar. The Skyhawk's camouflage and their maneuvers made Nene Flight's task of following the lead flight quite difficult. Reaching the top of a hill, Varela (Crispa 1) saw a British soldier strolling peacefully. The soldier froze and Varela saw the surprised look on his face. Beyond the soldier in the next valley was the British command post. They had made it! There were tents, modules with rotating antennas, and helicopters on the ground and in the air.

Chispa Flight attacked first. Flying side by side to maximize the effect of their bombs Varela said:

"Bombs gone…NOW, NOW, NOW!"

Twelve 500lb bombs fell simultaneously. Initially caught by surprise, British troops started to fire back: guns, missiles, and machine guns…everyone was shooting at the Skyhawks. The following flight (Nene) saw where the smoke of the explosions on the ground. The leader of the following flight, Cervera (Nene 3), fired his guns at the enemy concentration. He saw 4 or 5 helicopters in the area and the destruction caused by the Crispa Flight's bombs. He also saw soldiers running to take cover. Clearing the smoke, he saw helicopters on the ground, module-like containers, troops; he decided to attack them. He ordered his men to drop their bombs.

While leaving the area, a Sea King crossed Cervera's path from right to left. As his gun sight was set for low-level bombing, he had to aim without it. He saw his tracers flying towards the enemy helicopter and it seemed that they were entering the structure. He remembers that the pilot had a light blue helmet.

The neat formation of Skyhawks broke up as each plane tried to avoid the ground fire. The planes were crisscrossing, breaking, turning; their pilots shouted warnings to each other. Roca (Chispa 2) called out:

"Chispa 1, a missile has just exploded between you and me!"

Seconds later, Varela (Chispa 1) saw the flash of the explosion of yet another missile beside him and the plane shuddered. Mayor (Chispa 3) told him to eject, as Varela's plane seemed to have been hit. But the C-222 was still flying.

"Tucu! Break right!" called Dellepiane (Chispa 4). Cervera reacted immediately and two chasing missiles continued straight ahead passing him on his left. At that moment, he jettisoned his external load (pylons and fuel tanks) and the sudden shudder of the plane almost caused Cervera to loose control and his plane nearly impacted the ground!

Dellepiane saw a Sea King (ZA298 of 846 Sqn – Lt. Commander S. Thornewill) in the air squarely sitting in his gun sight. He pressed the button, but only two shots came out from the 20mm. Luckily, one of the rounds hit one of the helicopter blades (passing thru cleanly without exploding) and the pilot had to make an emergency landing. Dellepiane was able to see the pilot's green helmet. Taking off again, Thornewill landed in a valley and checked the damage. A new blade was sent and replaced and the Sea King was flying again hours later.

More helicopters were in the air. Dellepiane tried to fire at another one, but his guns were still jammed. Therefore, he passed as close as he could to the flying helicopter's blades.

The Halcones turn for Home

Varela (Chispa 1) put another helicopter in his gun sight and was about to fire, when he checked his instrument panel and saw his engine was overheating. The missile had indeed damaged his Skyhawk. Varela forgot the helicopter and turned to get out of there and to return to base as soon as possible. At that point, he realized that the engine was running rough and was vibrating making strange noises. To lighten his plane, Varela pressed the emergency release button and all the external stores fell away. As he had not communicated this decision his wingmen did the same.

Varela ordered his men to break up, head north as there were no Harriers there, keep silence on the radio, and return individually to divide the attention of the incoming Harriers. Roca (Chispa 2) decided to form on Varela. To Varela's surprise he heard Lt Gelardi (Nene 2) on only his 3rd mission shouting:

"And where is north?"…To which Lt. Mayor (Chispa 3) answered in a casual and jokingly way:

"To the right, my son, to the right!"

On the ground, two more helicopters suffered damage during the attack: Gazelle ZA728 and Scout XT637 from 656 Sqn. They had to be airlifted to San Carlos for repair at the 70 Aircraft Workshop.

Cervera saw the shadow of a plane chasing him. No matter what he tried he was not able to shake it …until he realized it was the shadow of his own plane. Nerves were playing tricks on him. Escaping on a northern route (same way they had entered the area minutes before) and now flying low over the sea he checked his fuel status and realized he barely had enough to return to his base (2,000 lb when 1,900 were needed). He was about to start to climb when only 700 meters ahead of him he saw a British warship! Gently turning west and trying to put distance between him and the warship as fast as possible while keeping a constant eye on his threat, Cervera left the ship behind. He cannot, even today, explain why the British ship allowed him to escape without firing a single shot.

Dellepiane's Ordeal

Cervera climbed as high as he could and put the engine on a reduced consumption regime. The other pilots called out their remaining fuel…and then Dellepiane realized he had less than what he needed to return to his base…and he had not even crossed Falkland Sound! He needed to climb to save fuel, but he was worried about the Harriers. He asked the radar where the enemy planes were. The answer came back, but the stressed "Piano" (his war name) was not in a state to comprehend. He asked radar to make it easy for him. The not-so-technical answer came back. The Harriers were not close to his damaged plane. Therefore, Dellepiane started to climb…and fast. Even at 100% power the plane did not seem to be moving…

Lt. Dellepiane asked Capt. Varela for advice. He was told that if he had not crossed the Sound yet he should look for a safe place to eject. But that point was now behind him and he also remembered that they had been told they had to save the planes at any cost. The other pilots were giving him advice jamming the air, but Varela shouted:

"Leave him alone and allow him to make his own decision!" Silence in the air…

Dellepiane asked the pilot of the KC-130 TC-69 (Vice Commodore Luis Litrenta) to get closer to the islands to help him, as he was not going to make it to the tanker's current position.

Cervera decided to leave the Hercules for Dellepiane, and without refueling he continued to the continent. Risking being hunted by the Harriers, the pilot of the "Chancha" (as the Herks are called in Argentina) flew at maximum speed to rescue Dellepiane who was broadcasting continuously to help the KC-130 find him. All the other pilots were giving him encouragement on the radio, telling him to keep up hope. They kept on calling their fuel status and Dellepiane said: "Some of you are so lucky…!" His companions kept encouraging him, but Dellepiane answered:

"I have to be realistic! I only have 300 lb left!"

"That's more than enough, don't worry!" answered Litrenta from the KC-130.

"That's only enough for 10 minutes more!"

"More than enough, we are almost there!"

Varela (Chispa 1) answered:

"Don't worry, Piano (Dellepiane). It looks that the two of us will end up in the drink! My rpm are fluctuating and the engine is overheating!" His Skyhawks's engine was at 83%.

"I've only have 200 lb left!!" said Dellepiane.

"Coco (Litrenta), please don't leave me alone!" He touched his breast pocket. "At least I will be able to smoke and have some chocolate before I die" he thought…these were presents from Capt. Carballo before the mission.

"How far would you get if your engine stops?"

"To the middle of the ocean…"

"How much "juice" do you have left?"

"200 lb"

"Oh! That's more than enough…!"

"I said 200, not 2,000!"

From time to time, Dellepiane was insulting them, asking them not to leave him alone. When Dellepiane had 150 lb Litrenta on the TC-130 said:

"I think we've found you! Waggle your wings" But it was not him. It was Cervera. After this brief period of hope, Dellepiane's spirits sunk. He was going nowhere with only 100 lb left. He was over the ocean. Alone. No chances of gliding to any piece of land… The Puerto Argentino/Stanley radar came on the air:

"Keep your hope Piano as the Virgin Mary is with you!"

With the fuel reading almost 0 lb, Litrenta said:

"We believe we can see you! Turn right! You should be able to see us!" And yes, down there on the right was the Hercules. They had spotted the damaged Skyhawk thanks to the fuel streaming behind it. Dellepiane asked the pilot to turn in order to make his refueling more easily as his gauge was reading zero (cero).

"I'll give it all! Full power to catch you!"

The engine was going to cut out any moment. But the surge of power had made the Skyhawk too fast and Dellepiane asked the KC-130 pilot to dive in order to gain speed.

"Diving for a loop!" was the answer he got while the Hercules went nose down. The deployed hose was in front of Dellepiane. Almost there…almost there…he opened his airbrakes and in his first try he managed to get his refueling probe into the basket at the end of the hose of the KC-130. Immediately his fuel gauge started to climb. He was saved by the courageous decision of the KC-130 pilot. Dellepiane could see thru the windows of the Hercules that the crewmembers were jumping, shouting, and embracing each other. On the radio the Skyhawk pilots were shouting "Y no hay quien pueda! (No one can succeed against us!)" This is the war song of the Halcones.

Congratulations and cries of happiness rained from the radio.

"Tucu! We are going to get soooo drunk tonight!" said Dellepiane to his friend Cervera.

Almost all the fuel that was being passed to the damaged Skyhawk was being lost thru a 18cm (almost 10 inches) hole in his right wing. Therefore, staying hooked to the tanker, Dellepiane flew his plane back to his base.

Upon uncoupling over the runway, he had a second emergency…the nose landing gear would not come down. Flying in circles above the base and loosing the little fuel he had left, Dellepiane desperately tried to lock it down. It finally came down and locked. When he touched down, his plane was engulfed in a cloud of fuel vapor. When the plane came to a stop, Dellepiane climbed out in haste. Beneath C-225 there was a big pool of fuel. Dellepiane could not believe he was safe back on the ground. As it was a Sunday, he went straight to Mass.

The Skyhawk can Take It

Going back to Cervera's predicament: He was also in a critical situation. After many minutes and with only 300 lb of fuel left he descended towards the runway. Suddenly Moroni's Skyhawk (Chispa 4) cut in front of him on finals! He asked Moroni how much fuel he had left and when he answered 1,000 lb. Cervera asked him to abort his landing as he was in an emergency due to low fuel. Cervera then landed safely with only 100 lb left in his main tank!

Tucu remained in his cockpit without moving. He was drained. And then the crewmembers started to gather around C-212 and point at the tail. When Cervera finally left his plane he looked and found that four shots had passed thru the base of the rudder without even scratching the hydraulic lines in the area!

In the meantime Capt. Varela had managed to get to base without further incident. But after landing, when he tried to idle the engine it just quit. He left his plane and along with his ground crew they looked into the air intake. They could not believe their eyes. The turbine blades had melted to less than half their length! The Skyhawk could not have flown in that state…but it did. A providential engine setting, the constant airflow into the engine, and some help from Above had helped Varela.

This incident only increased the mythical fame of the Skyhawk as it was considered to be indestructible and it would always bring her pilot back. Although some of them were badly damaged, all the Skyhawks had returned to their base. The pilots celebrated their success and safe return noisily and with lots of alcohol. Dellepiane had to be carried to his room…

All the Halcones' Skyhawks were repaired and served in the Air Force many more years. Capt. Varela's light gray C-222 was repainted in standard brown/green camouflage with kill markings on the nose (HMS Argonaut and RFA Sir Galahad).

Epilogue

All the Argentine Skyhawks A-4B were retired in 1999. C-222 (ex-BuAer142752g) now rests at the Area Material Rio Cuarto where it has been repainted in the light gray it carried on 13 June 1982. (Note 4)

This mission was a fitting end to the stellar achievements of the Skyhawks in the war: the most missions flown, the most targets hit, the most ships

sunk (HMS Ardent, HMS Argonaut, HMS Coventry, RFA Sir Galahad, Foxtrot 4 from RFA Fearless) and disabled (HMS Argonaut, HMS Glasgow, RFA Sir Tristam) besides others damaged like RFA Sir Lancelot. However, they paid a terrible price in blood with nineteen planes shot down (out of 38 that took part in the war) and seventeen pilots dead including two Squadron commanders - Capt. Palaver and Capt. Garcia on May 25th - during the 282 sorties flown between May 1st and June 13th.

"Y no hay quien pueda!"

With thanks to: 1. Luis Cervera for the permission to use the information from his blog and his answers to my questions. Gracias Tucu! 2. Guillermo Dellepiane for some of the details about June 13th that I have included here. 3. Tony Zelaya for his help and support (as always!). 4. Pablo Carballo for allowing me to transcribe parts of his books yet again (Gracias Cruz!). 5. Exequiel Martinez for his permission to share with you his painting. 6. Fernando C. Benedetto and Hernan Casciani.

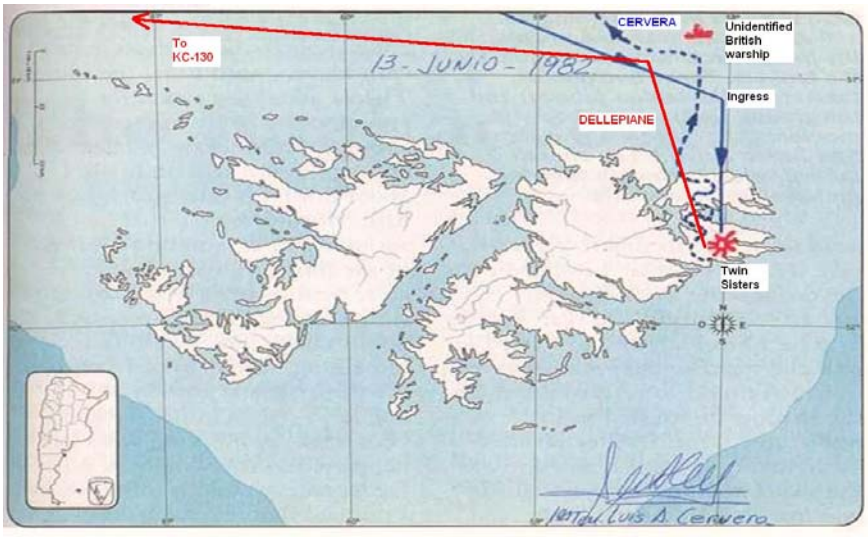
Pablo Calcaterra (SAFCH #1728), Canada.

Notes

1. Halcon (Falcon) is the name given to the Skyhawks pilots in the Argentine Air Force.
2. Orden Fragmentaria (Fragmented Order) is a brief mission instruction that afterwards is fully detailed.
3. In 1982, Skyhawk C-222 was going thru a major inspection in Area Material Rio Cuarto (Cordoba province). Due to the need to get as many planes as possible combat ready, C-222 was sent to the Rio Gallegos base without camouflage and painted only with anti-corrosion paint (light gray). The pilot that flew the plane on April 27th was my friend Capitan Antonio ("Tony") Zelaya. Upon landing one of the pilots saw the odd color and, being a racing horses fan, exclaimed: "Ahi llega el Tordillo!" (The grayish one is arriving!) It should be explained that Tordillo is the name given to horses that have a mix of black and white hair, thus giving a gray color that would be darker or lighter depending on the ratio of black/white hair. Thus, C-222 was given the nickname "Tordillo". On the 13 June 1982 mission, all the other Skyhawks of the 5th Brigada were camouflaged brown and green with sky undersides.
4. The camouflage colors of Argentine Skyhawks during the Malvinas/Falkland War were: A-4B from V Brigada in brown and green with sky undersides...except for Tordillo. A-4C from IV Brigada in sand, brown, and white undersides. A-4Q from Navy in light gray.

References

1. Tucu Cervera's blog: http://losacuatreros.blogspot.com/
2. Falklands Air War, Chris Hobson
3. Halcones de Malvinas, Pablo Carballo
4. Dios y los Halcones, Pablo Carballo
5. A-4B Skyhawk, Nunez Padin
6. A-4B y C Skyhawk, Fernando Benedetto
7. Historia Oficial de la Fuerza Aerea Argentina, volume VI, book 1 and 2



Halcones' mission of 13 June 1982. (Cervera and Dellepiane)

The Korean People's Air Force
in the Fatherland Liberation War
Part Five - Reinventing the KPAF

Douglas C. Dildy

The Context of the Korean War
November 1950—October 1951

With the withdrawal of the KPAF's 56th "Guards Taejon" FAR from combat for the second time, the only air cover remaining for the Chinese People's Volunteer Army (PVA) were the two Russian MiG-15 units from the *Voenno-Vozdushnye Sily* ("Military Air Forces" or V-VS, the Soviet Union's tactical air force). The one immediately available – and already seeing combat against Fifth AF fighter-bombers, FEAF B-29s, and USN Panthers and attack aircraft – was the *151st Gvardeyskiy Istrebitelniy Aviatsionniy Diviziya* (Guards Fighter Aviation Division, or *GvIAD*) headquartered at Shenyang.

During the first three weeks of November the *151st GvIAD* regularly patrolled high above the Yalu River, its intercepts resulting in the loss of two USAF Stratofortresses. (See Note 1) However, they did not fare so well in fighter-versus-fighter combat, losing three of their number to straight-wing USAF Shooting Stars and USN Panthers. By the time the massive PVA (36 divisions comprising the Ninth and Thirteenth "Group Armies") began their overwhelming counter-offensive against US, ROK, and other UN forces on 25 November, the *151st GvIAD* was withdrawn from combat to be restructured and resume teaching the PLAAF's 3rd and 4th FADs on the MiG-15. (Notes 2 and 3) About this time the new Langtao air base at Antung was completed, the original IJAAF airfield's two gravel runways being supplanted by a 1,800m (6,000ft) concrete one – with a hard-surfaced perimeter taxiway with revetments – for jet operations.

Replacing the *151st GvIAD*, the *50th IAD* arrived from near Dalian (Imperial Russian Port Arthur) and, after having KPAF markings affixed to their new, more advanced MiG-15bis, the unit's *29th Gvardeyskiy Istrebitelniy Aviatsionniy Polk* (Guards Fighter Aviation Regiment, or *GvIAP*) deployed to Langtao on December 3rd, joined by the *177th IAP* during the latter half of the month. This was the unit that first met the newly-arrived American F-86 Sabres (4th Fighter-Interceptor Group, or 4th FIG) in combat, losing three MiGs shot down and a fourth damaged beyond repair (DBR) while only downing one of their adversaries, thus setting the scoring trend for two and a half years' of dogfighting. (Note 4)

While the *50th IAD* was at Langtao, the PLAAF decided to gain combat experience for its new MiG-15 units. The pilots of the 4th FAD's 10th FAR were the furthest along in their training, having just completed group formation and combat maneuvers drills. Being members of the first MiG-15 regiment trained by the *29th GvIAP* at Shanghai, they averaged about 20 hours of flying time in the high performance, swept wing jet fighter, and on December 21st deployed one squadron to join their former tutors at Langtao, the other two following on January 27th. The (by Western standards) barely trained and wholly inexperienced Chinese pilots flew seven "familiarization and orientation" missions in four-ship formations, under the "protection" of two four-ships of Soviet MiGs before engaging in combat with USAF fighters.

On January 29th Li Han, squadron leader of the 28th Flying Group (see Table for comparative organizational structures), led a formation that attacked an F-80C off the North Korean coast. He was credited with the PLAAF's first aerial victory of the war. (Note 5)

In February, the *50th IAD's* year-long "tour of duty" in China was finished – it had originally been stationed, as the *106th IAD*, at Shanghai and trained the very first PLAAF units – and it handed over its surviving 56 MiG-15bis to the *151st GvIAD* and departed for Mother Russia. On February 6th the latter's *28th GvIAP* deployed to Antung, bringing with it the 4th FAD's less experienced 12th FAD. The pilots of this unit had only 15 hours in the MiG-15 soon proved they were not ready for combat operations, quickly losing at least four jets and three pilots in accidents. Altogether the 4th FAD flew 145 operational sorties, engaging UN aircraft in 24 of them, losing two MiGs destroyed and one pilot KIA in combat with USAF straight-wing F-84Es. This disappointing performance resulted in the unit being withdrawn for further training in early March. The PLAAF would not return to combat operations for six months.

The Russians of the *151st GvIAD* fared little better, losing five MiG-15bis in combat and destroying only one B-29A and one F-80C in return. (Note 6) During this period the PVA's "third-phase offensive" finally petered out south of Suwon on January 25th and resurgent UNC forces counter-attacked, liberating Seoul a second time on March 14th. Finally, by April the serpentine frontlines approximated the 38th Parallel whereupon the UNC, now commanded by Gen. Matthew B. Ridgeway, initiated a holding strategy intending to lead to a cease-fire along the pre-war "border".

By this time, the Soviets' elite *324th IAD* was finally ready for action and it relieved the *151st GvIAD* during the first two days of April. It was followed the next month by the arrival of the crack *303rd IAD*. Well trained, highly experienced on the MiG-15, and stocked with a majority WW2 veterans, these two units represented the best available in the V-VS. The *324th IAD* began operations from Antung's Langtao airfield, while the *303rd* was based at the just completed airfield at Tatung-kao, a few miles west of Langtao.

For a year these two MiG-15 divisions would battle USAF F-86 Sabres for air superiority over the Yalu, while the PLAAF and KPAF continued their operational training and prepared to meet the UN air arms in battle. Meanwhile, the *151st GvIAD* returned to Anshan and began training the KPAF's first MiG-15 air division (to be discussed in Part 6). The first North Korean jet fighter pilots would graduate in September, receiving their (by then, rather worn) MiG-15s from their tutors before the latter departed for Mother Russia in October.

Restructuring the KPAF

To accept the new MiG-15 air division – as well as others planned to follow – by the end of 1950 the KPAF was reorganized more along the lines of the PLAAF structure. The 1st Aviation Division of five regiments – each with three squadrons totaling 44 aircraft – gave way to a number of air divisions comprised of two regiments apiece, each with two 10-12 aircraft squadrons. (See Table for comparative organizational structures.)

One of the first segments of the KPAF to be reorganized was its propeller-driven fighter force. By this time the North Koreans had consumed all the Yak-9Ps available in the Far East and, according to Russian sources, were soon supplied with 40 La-9s (Note 7) – a score of these being used to establish a regiment at Yanji (probably re-forming the 1st FAR, which had been the Yak-9P operational training unit until August 1950) and the rest supplementing the remaining Yak-9Ps in the 56th GFAR. In January 1951 the latter returned to Sinuiju airfield with "20 La-9 and Yak-9 fighters" where it once again resumed combat operations. (Note 8)

Meanwhile "the Great Leader" Kim Il-Sung negotiated with Premier Stalin for the Soviets to train sufficient Korean pilots and aircrew to establish two air divisions of MiG-15s and another of Tu-2 bombers. (Note 9) On November 20 Stalin responded, agreeing to train the KPAF pilots on the MiG-15 "at one of our jet divisions in Manchuria. After the preparation of the pilots, the appropriate number of MiG-15 airplanes will be delivered." To establish the bomber division Stalin directed Kim to send the student pilots and aviation technician trainees to "the Korean school we have [established] in the Far East Maritime Region. The materiel, Tu-2 airplanes for the bomber regiment [*sic*], will also be given. "

The Rise of "Bedcheck Charlie"

While the rest of the KPAF was being reorganized and Soviet training programs established, one small unpretentious element of the air arm continued to take the fight to the enemy. Having seen his air force prove itself ineffective in traditional, conventional fighter-bomber operations, the commander of the Combined Aviation Regiment, Pak Den-Sik, initiated a seemingly insignificant form of aerial guerilla warfare: using slow, clumsy Po-2 trainers as night bombers.

First flown in June 1927, the Polikarpov Po-2 was originally designated the U-2 (U for *Uchebno* or "trainer") as the replacement for the AVRO 504 (designated U-1 in V-VS service). It was a simple, solidly-built biplane of mixed construction powered by a 99hp Shvetso M-11 five-cylinder radial. Its reliability and versatility resulted in an exceptional production run – over 40,000 examples built – until 1953, with Aeroflot workshops assembling more over the next six years. The most-produced biplane in the history of aviation, the Po-2 was adaptable to a wide variety of operations – from agricultural applications such as "crop dusting" (hence its Russian nickname "*Kukuruznik*" or "maize duster") to military reconnaissance, liaison, and light/night bombing.

For the last mentioned, during the darkest days of WWII Polikarpov created the U-2VS (*Voyskovaya Seriya* – "military series", later redesignated the Po-2LSh) by attaching racks for six 50kg (110lb) bombs underwing, or two racks for bombs and four launch rails for RS-82 rockets, and mounting a 7.62mm ShKAS machine gun in the rear cockpit. With a top speed of only 94mph (152km/hr) it proved almost immune to fighter interception, especially at night, since this was below the stalling speed of the Luftwaffe's Bf 109 and FW 190 high performance fighters. Night bombing of Nazi troops on the Eastern Front is reported to have added significantly to their already high combat stress levels by denying sleep through the shock of their sudden, unseen, silent-approach night attacks.

Patterning their operations after these "night heckler" missions, Pak Den-Sik's "liaison squadron" began flying nocturnal harassment sorties against UNC ground forces and air bases, in early autumn. Because of the lack of night flying training and low experience levels, the first few months of operations proved very costly. Soviet records report that by November 1 the squadron had lost five Po-2s in takeoff/landing accidents and four more failed to return from their night bombing missions. On that date the unit had six Po-2s and 14 pilots available, and the KPAF formally requested another ten aircraft from the USSR to support the PVA's offensive. However, according to

Soviet sources; only half this number were provided.

While these nocturnal operations had been going on for weeks, the first use recognized by the USAF was on November 19 when, just before daybreak, a pair of single engine airplanes attacked the Fifth AF forward airfield at Sunchon and Eighth Army emplacements along the Chongchon River. Nine days later, at 0300hrs, a Po-2 dropped a string of fragmentation bombs across the ramp of the 8th FBG's 36th Fighter-Bomber Squadron (FBS) at Pyongyang airfield, killing one American and damaging eleven of the unit's F-51Ds. (Note 10) By this time the UNC forces were falling back steadily before the PVA onslaught and three of the damaged Mustangs had to be destroyed and abandoned in the retreat.

Primarily the 1st Night Bomber Battalion (as it was now called) used its Po-2s in support of the KPA's II Corps which was advancing through the central highlands against the ROK III Corps. During the first two weeks of January – as the PVA recaptured Seoul and Kimpo AB – Pak Den-Sik's unit flew at least nine night missions against their South Korean brothers. While little material damage was done, the Po-2s preyed effectively upon the psyche of their enemy, causing much alarm among the retreating, already fearful troops.

Dubbed "Bedcheck Charlie" (or "Chinese alarm clocks") by the Americans the doughty little biplanes were dormant throughout the springtime then dramatically increased their operations in early summer, once again scoring big. Taking off from Sariwon airfiled in the early morning of June 14, a pair of Po-2s raided Suwon AB – one's bombs barely missing a squad of construction engineers repairing the runway – and the Eighth Army motor transport park at Inchon. (Note 11)

Three nights later pilot La Woon Yung led another pair attacking Suwon, where at 0130hrs his wingman bombed the 802nd Engineer Aviation Battalion's motor pool while he scored a direct hit on the 335th FIS parking ramp. One F-86A Sabre (S/N 49-1334) erupted into flames. The maintenance personnel – some of whom were wounded (along with one pilot) – frantically pushed other, damaged, jets away from the conflagration, saving them, but four more F-86s had been seriously damaged and another four less so.

As La Woon Yung later stated, "I saw with my own eyes that many of the enemy aircraft had been destroyed by my bombing."

Shooting Down "Bedcheck Charlie"

While the success at Suwon encouraged the KPAF, the spectacular embarrassment galvanized FEAF into doing something about the threat that, thus far, had been scoffed at as insignificant. Contrary to popular mythology, the Po-2's Shvetso radial, propeller, and its steel tube frame did present a radar echo and the USAF's 606th Aircraft Control and Warning Squadron (ACWS) actually tracked the raiders on both occasions, despite their relatively low-altitude.

Six nights later the American radar controllers detected a slow moving target in the "ground clutter" around Seoul and called for any airborne aircraft in the vicinity "to flush the unidentified aircraft." USAF Capt Richard M. Heyman, a WW2 Mustang pilot now flying a Douglas B-26C night intruder (8th BS[L]/3rd BW[L]), was returning from the Wonsan area with plenty of ammo still in his 14 .50-cal. machine guns.

Slowing to 130mph (209km/hr) by lowering gear and flaps, and opening the bomb bay doors, he descended to 2,000ft (610m) approximately 25 miles (40km) north of Kimpo. In the bright moonlight, Heyman sighted the little biplane strafing targets of opportunity. The KPAF pilot spotted the Invader and attempted to escape, running north up a valley at 800ft (245m) altitude. As the B-26 rapidly overtook the Polikarpov, its pilot banked abruptly, attempting to jink to one side, but only provided a full planform as a target. The 14 Browning machine guns ripped through wood and fabric, there was a brief flash of fire, and then the Po-2 crumpled and fell to the ground.

The first morning in July another "night heckler" was detected north of Seoul and this time the 606th ACWS had a bonafide night fighter to work with: a Grumman F9F-3N Tigercat (VMF[N]-513) piloted by USMC Capt Edwin B. Long with Warrant Officer (WO) Robert C. Buckingham working the radar. Long "took three passes to get lined up. But when I did the tremendous firepower of the Tigercat [four 20mm cannon] did the job quickly, and he went down into the side of a mountain in a fiery crash."

Shortly after midnight eleven days later, the USMC "Flying Nightmares" (VMF[N]-513) intercepted a third Po-2 over Seoul, this time using a Vought F4U-3NL Corsair – the famous scourge of the South Pacific (in WW2) with a radar on its wing. USMC Capt Donald L. Fenton was vectored to the target, found it visually, and attacked in the face of the rear gunner's machine gun fire. His four 20mm cannon blasted the little biplane – it disintegrated into a wad of wood and fabric, wings folding back, and fell to the ground.

Having lost three aircraft and six crewmen in three weeks, the 1st Night Bomber Battalion stood down from combat operations for two months to rebuild and undergo further training in low altitude night flying operations.

Douglas C. Dildy (SAFCH #844), USA.

NOTES

1. On 9 November, two MiG-15s (72nd GvIAP) shot up RB-29A 44-61813 (31st Strat Recon Sqn) so badly that it crashed on approach for landing at Johnson AB, Japan, killing five crewmen. The next day six MiG-15s attacked B-29A 45-21814 (307th Bomb Wg/371st Bomb Sqn) resulting in it crashing seven miles southwest of Kusong with three dead, one MIA, and eight POWs.

2. The two PLAAF MiG-15 FADs were formed in late October by transferring the newly operational 7th FAR (38 MiG-15s) from Shanghai to Shenyang and splitting it to provide the basis for the 3rd and 4th FADs. The 3rd FAD – composed of the 8th and 9th FARs – was based at Anshan. The 4th FAD – 10th and 12th FARs – was stationed at Liaoyang. To fully equip these two new FADs, Stalin ordered 100 MiG-15s shipped to Shenyang, where they arrived in December, but without drop tanks. These were reserved for the *50th IAD* and *151st GvIAD* due to the high expenditure of tanks experienced because of the 200-300km distance from Shenyang/Anshan airfields, respectively, to patrol the Yalu River.

3. To train both the 3rd and 4th FADs simultaneously, in late October Belov's *151st GvIAD* was ordered to form a second fighter aviation division by splitting off one regiment and providing sufficient pilots and jets to form another. Sometime in November it detached the *139th GvIAP* at Liaoyang to form the basis of the new *28th IAD*. The new division's second regiment was the *67th IAP*, which was formed by the aircraft and pilots released by downsizing the *151st GvIAD's* regiments from 40 jets each to 32. This was done to make them more compatible with the PLAAF FADs, which were authorized 30 aircraft each. The *28th IAD* was scheduled to train the 4th FAD (to be followed by the 15th FAD when the PLAAF's second class of new pilots graduated in March) while the *151st GvIAD* trained the 3rd FAD. However, due to operational exigencies, the *28th IAD* was instead sent to Qingdao (colonial Tsingtau) to provide air defense for the Shandong Peninsula and eventually began training the PLAAF's 16th FAD in February 1951.

4. The Sabre lost was F-86A 49-1176 from the 335th FIS; Capt Lawrence V. Bach ejected to become a POW. The *50th IAD* also shot down an NAA RB-45C Tornado jet reconnaissance aircraft (S/N 48-015 from 84th Bomb Sqn/Recon Det A; two POW, two MIA) on December 4, but lost one MiG-15 to B-29 gunners two days later. A sixth MiG-15 was lost when it broke up in flight while engaged in hard maneuvering against a pair of USAF Republic F-84 Thunderjets, the pilot was KIA. During January – while the F-86s were withdrawn to Japan because the CPVA overran their base at Kimpo – the *50th IAD* shot down three USAF straight-wing jets in one of the largest air battles to date. USAF losses were: RF-80 (8th TRS; S/N unknown), F-80C 49-673 (8th FBS/49th FBG), and F-84E 49-3240 (523rd FES/27th FEG). Two pilots were killed and the third captured.

5. Mentioned in the FEAF weekly Intelligence Report, dated 4 Februrary 1951, this claim correlates best with the loss of F-80C 49-850 of the 8th FBG's 36th FBS, which according to KORWALD (US aircraft loss database for the Korean War) flamed out ten miles east of Iki-Shima Island, Japan, with the loss of 1Lt Arthur E. Hutchinson, KIA.

6. B-29A 44-69667 was one of three damaged so badly (of a total of ten that sustained damage from AAA and MiGs) that they had to make emergency landings in South Korea. Landing safely at Taegu, it was considered DBR and written off as a total loss. The F-80C was 49-1834 (36th FBS/8th FBG), lost in a head-on collision with a MiG-15, killing 1st Lt Howard Landry who was also credited with a victory. Additionally, the *151st IAD* lost one MiG-15 shot down by an F-86A on 31 March, but no victory was credited by USAF. The other combat losses occurred while fighting F-80Cs: two MiGs collided killing both pilots and one MiG-15 was shot down by F-80C, but the USAF credited it to a B-29 gunner.

7. It is now believed that the La-9s were from the V-VS 304th IAP, originally based at Spassk airfield, in the Primorye Region. Ordered on September 23rd to deploy to defend Pyongyang, this effort was aborted because of the rapid northward advance of UNC forces. The regiment retired to Jilin Province, China, where Yanji is located. See Part 4, Endnote 4 for further details of the aborted deployment.

8. As will be described in Part 6, this regiment formed part of a "mixed air division." The fighters were joined by approximately 18 Il-10s as the 57th Assault Aviation Regiment which also returned to combat operations at this time.

9. Kim Il-Sung's initial request was for the USSR to train 119 student pilots (soon to be graduated by the KPAF training program at Yanji) on jet fighters and twin-engine bombers, 120 aviation technicians (navigators, bombardiers, radio operators and gunners), and 30 assault aircrew members (radio operator/gunners). Additionally, to relieve KPAF instructors for combat duty, he requested 170 student pilots that were to have completed their academic training by January 1 be sent to the USSR for their flight training. Furthermore, he sought to have the 200-300 "Korean students sent to the USSR for education" be recruited as pilot candidates.

10. The 8th FBG's 35th and 36th FBSs had just arrived at Pyongyang three days prior to the bombing. The airfield was hit by the Po-2 night raiders twice more before the 8th FBG evacuated five days later. Meanwhile, on December

1, Po-2s raided Pyongyang's Onjong-ni airfield damaging a C-47 transport.

11. On the night of 15/16 June, Kimpo AB was reportedly strafed by a Blochavidan MBE-2bis pusher-type seaplane, nearly wounding a jeepload of military policemen. This is the only report of the use of this rare type aircraft in the Korean conflict.

Table 1

Comparative Organizational Air Force Structures			
USAF	**V-VS**	**PLAAF**	**KPAF (1951+)**
Air Division Any number of subordinate units	Istrebitelaya Aviatsionnaya Diviziya (Fighter Aviation Division) 2-3 Fighter Regts per IAD	Fighter Air Division 2 Regiments per FAD	Fighter Aviation Division 2 Regiments per FAD
Fighter Wing or Group (notes 1 and 2) 2-3 Squadrons per Fighter Group/Wing	Istrebitelniy Aviatsionniy Polk (Fighter Aviation Regiment) 3 Squadrons per IAP	Fighter Air Regiment 3 Squadrons per FAD	Fighter Aviation Regiment 2 Squadrons per FAR
Squadron Numbered (seemingly) randomly 24/25 aircraft each	Eskada (Squadron) Numbered sequentially 1-3 in each regiment 12 aircraft each, plus 4 for the regimental staff/reserve	Flying Group Numbered sequential throughout the regiments and divisions 10 aircraft each (Note 3)	Fighter Aviation Battalion Numbered 1-2 in each regiment. 10-12 aircraft each

1. Until late 1952 the USAF wing organization included a flying, maintenance and supply, air base (service and support), and medical group. Example: the 4th Fighter-Interceptor Group (FIG) was the flying unit of the 4th Fighter-Interceptor Wing (FIW). After this time, the group designation was deleted and each group became an integral part of the wing under a deputy commander, with the squadrons assigned directly to the wing headquarters. Example: the 4th FIG commander became the 4th FIW/Deputy Commander for Operations.
2. Until the mid-1950s, each USAF fighter wing/group was designated by its combat specialty: fighter-bomber, fighter-escort, fighter-interceptor, etc.
3. For example, the 4th Fighter Air Division's (FAD's) 10th Fighter Air Regiment contained the 28th, 29th, and 30th Flying Groups.

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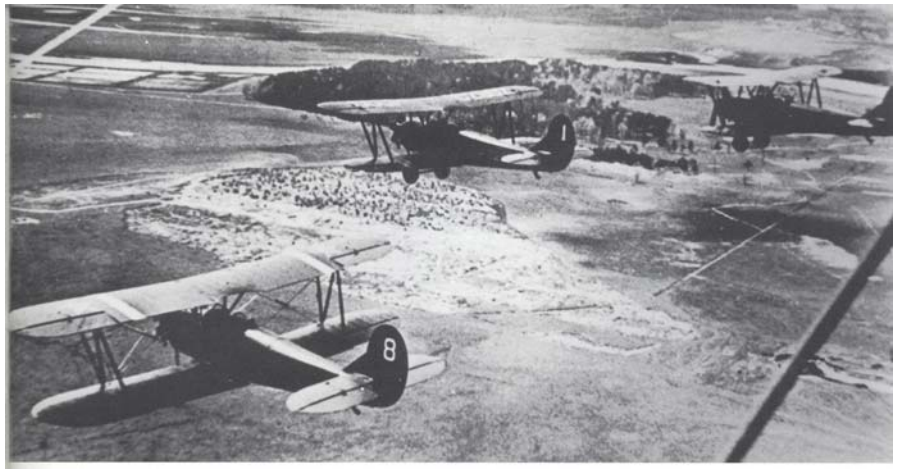
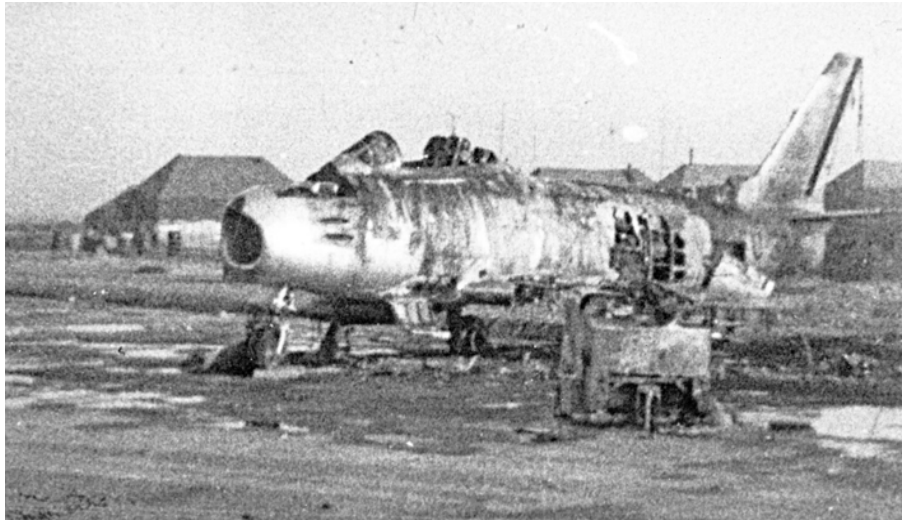
While the KPA was invading the ROK during the summer of 1950, the Soviets' 29th GvIAP was in China teaching the first PLAAF pilots to fly the new, highly advanced MiG-15 jet fighter. The unit began instructing the PRC's 7th FAR on the type – in PLAAF markings – in July, completing their training and transferring the jets to the Chinese unit in October. At that point the 29th GvIAP transferred to Dalniy airfield (near the old Imperial Russian Port Arthur) where it was issued new MiG-15bis fighters, and eventually, as part of the 50th IAD, saw action over the Yalu from December 1950 to March the next year. Seen at Dachang airfield near Shanghai, the aircraft to the left is S/N 0315367. (Osprey Publishing, reprinted with permission)



While the KPAF was undergoing a wholesale rebuilding and restructuring, one small liaison unit initiated a sort of airborne guerrilla warfare with its ancient Polikarpov Po-2 biplane trainers. Patterning their operations from the Soviet's WW2 "night hecklers" harassing the Nazis on the Eastern Front, they proved effective in keeping UN troops and air forces awake at night, sometimes with results wildly out of proportion to the size and expense of their effort. (USAF Photo of Soviet Po-2s on a low altitude formation training flight)

This photo is frequently billed as one of the few depicting actual KPAF MiG-15s, as opposed to Soviet and Chinese MiG-15s in KPAF markings. However, further investigation reveals that these aircraft most probably belong to the PLAAF's 10th FAR (of the 4th FAD). Built around a cadre of recent graduates from the 7th FAR, the 10th FAR was trained at Liaoyang from October-December 1950 by the V-VS's 28th GvIAP. Late in December, they deployed to Antung where their initial combat experience against the USAF was less than impressive, resulting in their withdrawal for further training. (Detlef Billig Collection)



KPAF28 – Never underestimate your opponent. The Po-2s were able to locate Suwon AB easily at night because of the headlights of vehicles driving around the base and then found the base motor pool and the 4th FIG parking ramp because they were well-lit to prevent saboteurs from causing havoc at night. The result was the destruction of this F-86A-5, S/N 49-1334, and the damage to eight others. Following this raid stringent operations security measures – including camouflage netting over the bright silver, bare metal jet fighters – were instituted. (Irv Clark via Warren Thompson)

AIRCRAFT OF THE KOREAN PEOPLE'S AIR FORCE

By Frans Scheve, SAFCH #890

Combined Aviation Regiment,

1st Night Bomber Battalion, 1950-51

Polikarpov Po-2 "Red 9"

The KPAF evacuated 15 Po-2s to Yanji, PRC, in August 1950 where Pak Den-Sik, commander of the Combined Aviation Regiment, began using them in "night heckler" missions, forming the 1st Night Bomber Battalion. At least nine were lost during operations in 1950, with five replacements being received from the USSR that year.

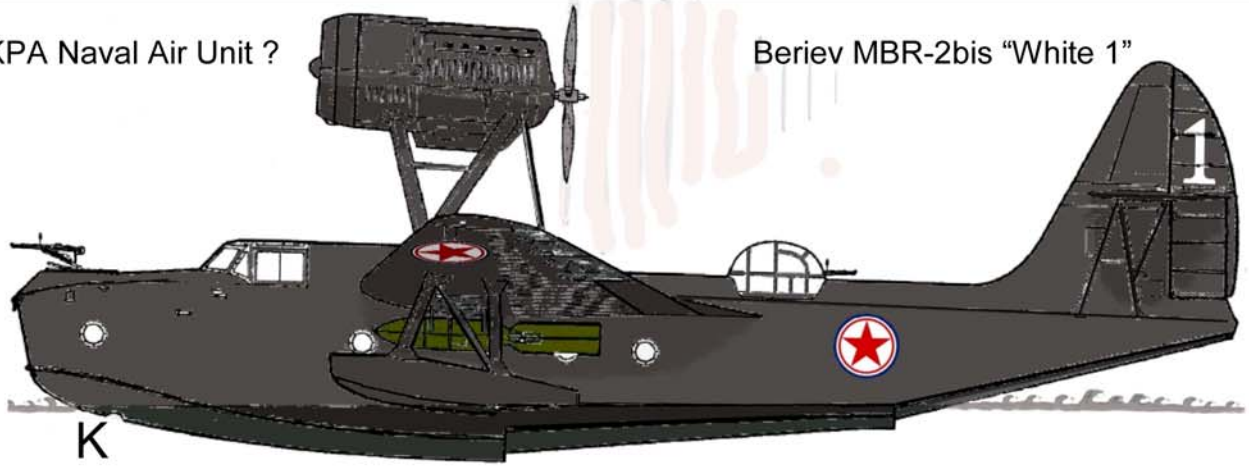
1st Night Bomber Battalion, 1952-53

Yakovlev Yak-18 "White 15"

The loss of at least three more Po-2s in the first half of 1951 led the KPAF to begin using some of the 30 Soviet-supplied Yak-18 trainers for night bombers in 1952-53. These had sporadic, but spectacular, successes late in the war because the FEAF was never fully able to prevent these small, slow, light aircraft from flying down South.

KPA Naval Air Unit ?

Beriev MBR-2bis "White 1"



The Beriev MBR-2bis was a short-range reconnaissance flying boat (MBR for *Morskoi Blizhniy Razvedchik*, or "Naval Short Range Reconnaissance") built for the Soviet navy during 1937-41. At least one example was provided to the KPAF, or the KPA's naval air element if one existed, and was used in a "night heckler" raid on Kimpo AB on the night of 15/16 June 1951.

Explanations of drawing notes. All notes correspond, as described in *SAFO* nrs. 138 & 139. Additional notes : **J-** National insignia horizontal, when the a/c is static. **K-** Matt black camouflage overall. **L-** Yellow tail tip and band.

The Consolidated Y-boats in the Netherlands East Indies September 1941 to March 1942

Jim Maas

[Editor's note: This article first appeared in the Journal of the Australian Plastic Modellers' Association (APMA) issue #3-11. It is reproduced here with permission of the author and the editor of the APMA.]

The celebrated Catalina flying boat often appeared at pivotal moments in the early days of the Pacific War. An RAF Catalina was the first Allied aircraft lost to the Japanese, a day before the recognized start of hostilities; U. S. Navy PBY-4's of Patrol Wing 10 in the Philippines provided desperately needed intelligence, as did 11 and 20 Squadron RAAF Catalinas further south. But often missing from these accounts are the 'Y-boats' of the Marine Luchtvaart Dienst (MLD), the air service of the Royal Netherlands Navy (KM). In fact, the MLD's Consolidated and Dornier flying boats represented a larger force than the U. S. Navy and Commonwealth combined.

Defending the Netherlands East Indies (NEI) from anticipated Japanese invasion was always seen as a demanding task. From east to west, the string of islands was wider than Australia or the continental United States. Reconnaissance for the KM had a high priority and the MLD's order of 72 Dornier Do-24K flying boats resulted in deliveries at the end of 1937. However, the European war interrupted the Dornier order (as well as plans for three battlecruisers to be built in the Netherlands) after 37 had arrived by mid 1940. (Note 1) To make up for the shortfall, the NEI authorities quickly placed an order with Consolidated for 36 examples of the export equivalent of the U. S. Navy's PBY-5 Catalina. This Dutch variant, Model 28-5MN, actually differed little from a standard PBY-5, other than metric instruments and placards in Dutch. (Note 2) The aircraft received Dutch serials Y-38 to Y-73 and were known as "Y-boats". (Note 3)

The Y-boats began arriving in September 1941, after being flown by civilian crews via Pearl Harbor, Midway, Wake, Guam, and the Philippines; there, they were taken over by Dutch crews and flown south to the NEI. Early arrivals were assigned to the flight training center at Morokrembangan (Note 4) in eastern Java, to work up crews for the new type. Pilot and aircrew shortages were a serious problem for the MLD, since a major source of personnel, from the Netherlands, was no longer available. Still, by the outbreak of the Pacific War, 30 aircraft had arrived and six been put into operational flights. The MLD used three-aircraft flights, Groep Vliegtuigen (GVT); the Y-boats went to GVT-16 and 17.

The remaining six aircraft were caught up in the outbreak of hostilities. Y-68 was destroyed during the attack on Pearl Harbor, Y-69 was damaged at Midway and had to return to San Diego. Y-70, -71 and -72 had to take an improvised southern route, while the repaired Y-69 and Y-73 had to take a longer route across the Atlantic and Indian Oceans to reach the NEI. As the war progressed, more Y-boats went to various GVT's, often replacing losses from the Do-24K fleet. Not all the 35 delivered Y-boats stayed in service with the MLD. Because the MLD was short of trained aircrew, three were loaned to the RAF's 205 Squadron at Singapore in mid-December 1941, and five more were loaned to the U.S. Navy's Patrol Wing Ten to make up for losses of their older PBY-4's in the Philippines. After a frantic three months of combat against a better organized enemy, remnants of the MLD Y-boats escaped to Australia, where a number were then lost during Japanese attacks on Darwin and Broome. To detail the actions of the MLD would be impossible in this article, but I would strongly recommend the excellent book by Tom Womack, *The Dutch Naval Air Force against Japan* (Note 5) available through most book dealers.

Modeling the MLD Y-boats

PBY-5 flying boats are available in both 1/72 and, sporadically, 1/48, and as a relatively simple conversion from the amphibious PBY-5A in 1/144. The only significant modifications would be the elimination of the thermal de-icing intakes (the intake on the lower leading edge of the fin, and what looks like a step on the front of the wing pylon). However, de-icer boots were carried on wing, fin and tailplane leading edges. In addition, the MLD Y-boats, delivered without defensive armament, were fitted with Browning .303's on arrival, so kit .50 calibre machine guns would need replacing, although some

Y-boats did acquire them in later service with the RAF. (Note 6) Dutch Decal produced a sheet in 1/72 (72068) which is out of print but may be available through secondary sources. The cockpit area was probably an early version of interior green or interior yellow; the gun blister areas look like either a flat aluminum finish or light grey. Propellers were black with yellow tips. (Note 7) Light colored 'V' access zippers appeared on either side of the centerline on the upper wing, along with noticeable exhaust staining.

Camouflage

In 1974, historian Jerry Casius made a discovery which has influenced descriptions of MLD Y-boats camouflage ever since. He found that the Netherlands Purchasing Commission in the U.S. ordered stocks of DuPont paints (Note 8) for the MLD. Beside orange and black for the national insignia, there were two camouflage colors: "Duco Line Mud Color 278-4202" and "Duco Line Milk White 278-34449". Black-and-white photos of MLD Catalinas seemed to show very light undersurfaces, consistent with "Milk White".

Unfortunately, no one had (indeed, has) any idea what color "Duco Line Mud" was, despite inquiries to DuPont and Sherwin-Williams. For the Y-boats, at least, the problem took an unexpected turn with the 1998 publication of the Dutch book *Camouflage en Kentekens*, (Note 9) with a beautiful color photo (from a color film) of Y-38 and Y-39 in full delivery scheme with orange rudder and large triangles. It was clear that "Mud" was not the color used by the Y-boats (and Dornier X-boats). That color photo accompanies this article, courtesy Dutch researcher Rob Burgerhout. The upper surfaces were a dark blue-gray, and the undersurfaces appeared white. Of course, any period color photo is subject to interpretations, and there have been many for the Y-boats - from Engine Gray over white to ANA 607 Non-Specular Sea Blue over British Sky.

However, Rob has also been able to provide original documentation for the MLD Catalina color scheme:

- upper surfaces were DuPont Dark Blue Grey 71-19459

- under surfaces Milk White DuPont 71-021 (bottom hull only - Fuller TL8770)

- pilot's and bomb aimer's compartment - tinted primer; all other interior spaces aluminum primer

Although no color equivalents of the DuPont numbers are available, it is believed that the Dark Blue Grey was considerably darker and bluer than M-485 Blue Gray (FS 35189) used on USN aircraft in the 1941-42 period. Regrettably, nothing in the usual reference, FS-595, comes close. The color is a dark grayish blue but not so dark that black (the outline to the triangles) can't be discerned. (Note 10) Based on review of the color film, Rob Burgerhout has suggested that the closest modeling paint would be White Ensign Models 1942 Revised Deck Blue 20-B (#10 in the WEM Colourcoats USN WW2range). (Note 11) This is not to suggest that the MLD color was connected to the USN color, just that they were similar.

Milk White is not a pure white, (Note 12) but an off-white - the kind of color that looks white until you put some pure white next to it. FS 595 27780 is in the neighborhood. The use of Fuller coating for the hull bottom (only) was specified due to the anti-fouling character of the Fuller paint; this eventually imparted a greenish tinge to the off-white, caused by the arsenic content in the paint. So well-used Y-boat would appear to have two undersurface colors - the standard Milk White under wings, tailplanes and rear fuselage, and a slightly green-tinted Milk White under the hull.

On the rear fuselage, the demarcation between upper and lower colors followed natural cross section contours and then curved down to meet the chine line between the gun blister and the rear wing strut. (Note 13) This pattern differed from that on USN PBY-5's of that time frame, which treated the vertical surfaces under the gun blisters as an uppersurface color.

Insignia and Markings

Dutch markings in the NEI can be confusing, in part because of mis-captioned photos, but it helps to remember that there were two air arms involved, one army, one navy. And just like the US and Japan, each air arm presented national insignia somewhat differently at certain periods. From October 1939, the Netherlands insignia for aircraft comprised orange triangles, with a 10cm black border, in four wing positions and on either side of the rear fuselage, plus an orange rudder, also outlined with a 10cm black

border. After the fall of the Netherlands in May 1940, Dutch markings were to be changed by the deletion of the rudder and upperwing markings. In the NEI, the Army enacted this change fairly quickly during the summer and autumn of 1940. The Navy took longer, apparently into the spring of 1941. (Note 14) In addition, the MLD change included a reduction in the size of the fuselage triangle to 1/3 the original size. When the Y-boats were being finished in San Diego, they reflected the early 1940 insignia rules, displaying large triangles (3.5 meters on each side) above and below the wings, fuselage triangles of one meter on each side, and the rudder in orange. Since he black border was always a constant thickness, it looked disproportionately thin on the wing insignia.

On arrival in the East Indies, the upperwing and rudder markings were painted over with Dark Blue Grey; the area of overpainting appeared slightly lighter and at least on some aircraft a hint of the darker border could be seen where the upperwing insignia had been. At the same time, the fuselage triangle was reduced to 1/3 the original size, (Note 15) surrounded by the overpainting of the original marking. The 3.5 meter underwing triangle was not changed.

Each aircraft carried a serial, Y-38 to Y-73, in characters 20cm high under the tailplane; photos suggest the location may have varied somewhat. The characters were presented as white outlines, which often makes them difficult to spot in photos. (Note 16)

On 24 February 1942, the Netherlands government in exile ordered the aircraft national insignia changed to a rectangular red-white-blue flag. Although this was not to be effective until March 1, it appears that some changeovers were done on receipt of the order, since it was felt the orange triangle could be mistaken for the red Japanese hinomaru. This article does not depict the flag marking since it is difficult to know if a particular photo was taken during the fight for the East Indies, or later when the MLD was flying from Australia.

Jim Mass (SAFCH #411), USA.

I'd like to express my deep appreciation for the extensive help (and patience) given by Rob Burgerhout in vetting this article. I hope it will encourage modeling of these colorful and historically significant aircraft.

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Notes

After an initial batch built by Dornier, the Dutch firm of Aviolanda began production under license. Following the invasion in May 1940, the Germans took over the Dutch production line for their own use. Eventually, almost 300 Do-24's were built in Europe.

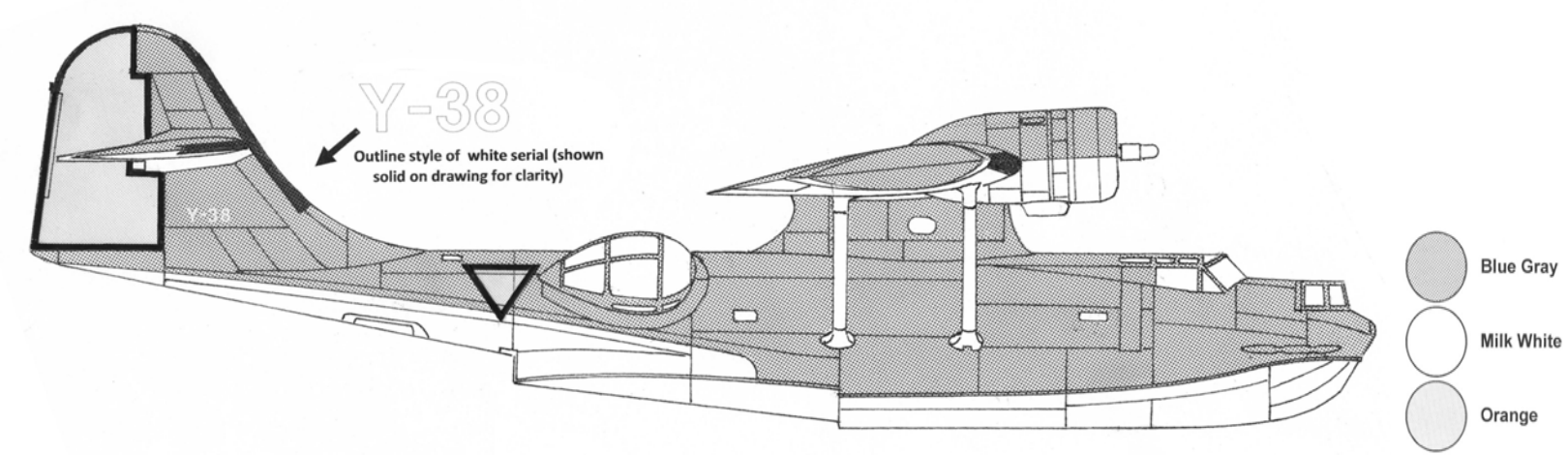
2. As delivered, the aircraft lacked armament and bomb racks, since the standard USN rack would not work with Dutch ordnance. As noted in the text, there did not appear to be thermal de-icing intakes on the central pylon and fin.
3. The Dorniers were serialed X-1 to X-37, and known as "X-boats".
4. The training center had a number of American flight instructors, released from the U. S. Navy and Marine Corps; they nicknamed Morokrembangan "Little Pensacola" after U. S. Navy's flight training base in Florida.
5. McFarland & Company, Inc., 2006
6. The light armament made the Catalinas unpopular with some MLD aircrew, who preferred the Do-24K's 20mm cannon in a dorsal turret
7. Consolidated must have used the same specs as for the contemporary British orders, since at the time USN PBY props still carried red-yellow-blue prop tips.
8. To be provided through Sherwin-Williams
9. J. Greuter, M. Schep, L. Boerman, J. Bossong, printed by BV Bonneville. As seems to be the case with many Dutch books and decals, it has not been reprinted and is now pretty rare, one copy fetching 125 Euros.
10. The color photo looks lighter, probably because it was taken at San Diego, USA, in full sunshine.
11. As always, beware of on-line color chips due to monitor calibration etc.
12. A good description of Milk White can be found at http://www.perbang.dk/rgb/DCD9CD

13 This treatment also appears as a characteristic of RAF Catalinas in the FP100-FP249 series, including those released back to the USN (in RAF camouflage) for training Commonwealth pilots at Pensacola.

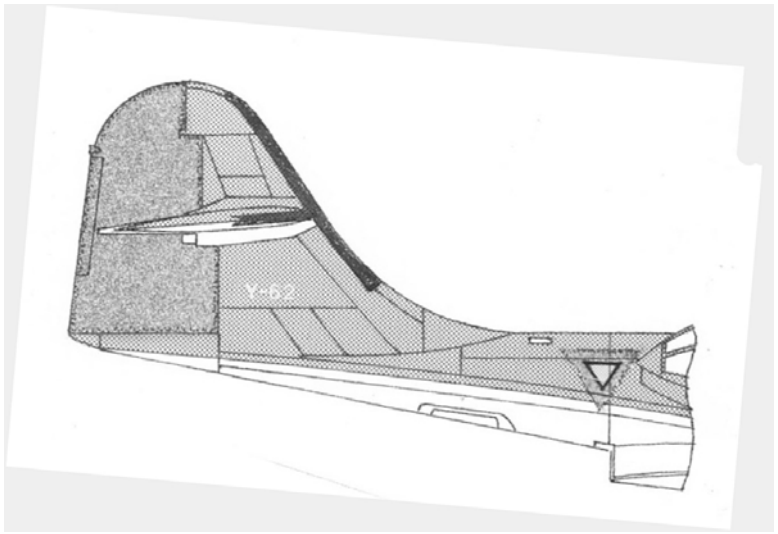
14 This may have been because there was an exemption to the removal of upperwing markings for aircraft operating outside the normal Dutch airspace, more likely to apply to the MLD during peacetime than to the Army ML-KNIL.

15 The fuselage triangle forced a reduction in the outline width; if the 10cm border had been retained, the result would have been a mostly black triangle with a dot of orange in the center.

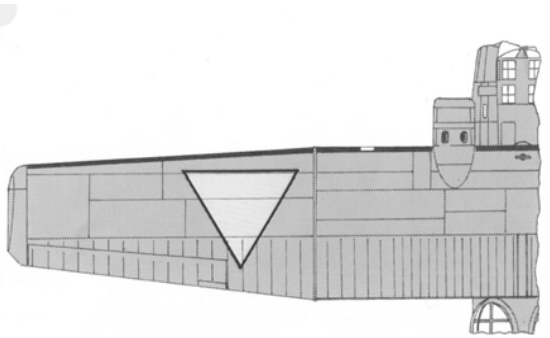
16 Or in real life. The Dornier X-boats had black serials, but these were so difficult to see that one pilot reported it was easier to identify an adjacent aircraft by flying alongside the cockpit and recognizing the other pilot's face - letter from F. Gerdessen to author, March 24, 1976.



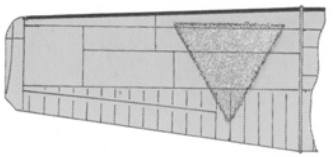
Port fuselage view in delivery appearance still with black outlined orange rudder and original size fuselage insignia



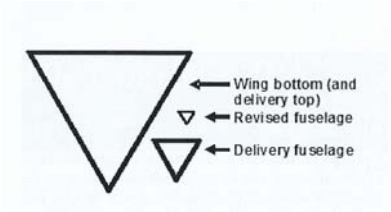
Modified appearance after arrival to East Indies
Orange rudder overpainted and fuselage insignia reduced in size



Upper left wing in delivery scheme



Upper left wing view – post delivery modification
Wing insignia overpainted with lighter shade of Blue Gray



Holland's Top Secret WW1 Bombsight

Frits Gerdessen

[Author's Note: During World War 1, a technically advanced bombsight was developed and employed by the Luchtvaartafdeeling (LVA). This bombsight was produced in utmost secrecy. However, in the mid-twenties it quietly disappeared from the inventory, as being too complicated and unreliable. As all technical documents have been destroyed, it is impossible to tell exactly how it worked. It is one of the best kept Dutch military secrets.]

With the outbreak of WWI in August 1914, a new Dutch army unit was established: the Verlichtingspark (Illumination Park) was charged with all electrics in the army. This unit was considerably expanded during the war and, after the Armistice, it was included in the engineers regiment. The engineers (genie) regiment was, at that time, the only technical organization in the army and one of its offspring's was the LVA. The first LVA commander, kapt. H. Walaardt Sacré, was an engineers officer (who before commanded a balloon unit), and a lot of early personnel came from the engineers.

Among the Verlichtingspark personnel was reserve sergeant ir. Nicolaas Everhard Groeneveld Meijer e.i. (electrotechnisch ingenieur). Groeneveld Meijer was born on 27 April 1893 in Sneek, and he attended the Technische Hogeschool (Technical University) in Delft. In 1914 a number of graduating engineers from the Technische Hogeschool were drafted into the army to become reserve officers for special duties. Groeneveld Meijer was one of them. After basic training he was posted to the Verlichtingspark.

Groeneveld Meijer designs a bombsight

While on duty, he designed an automatic, electrically-functioning bomb-aiming and dropping device. (Note 1) He presented his design to the Ministerie van Oorlog (War Ministry) in 1915. A prototype was built and installed in a Farman HF.22. On 30 September 1915, tests were conducted at Soesterberg air base. During the first test, a practice bomb fell amidst workers who were erecting hangars - the C.LVA considered it better to do further tests away from buildings.t

Groeneveld Meijer planned to file a patent, but as this required publication of his invention, the War Ministry considered this not a good idea. The Ministry now bought the complete design and production rights for ƒ 20.000.

The Groeneveld Meijer bombsight underwent modifications and, since initial tests were promising, another prototype was built. In the meantime, Groeneveld Meijer had been promoted to ensign and later 2nd Lieutenant, and was posted to the LVA.

During 1917, further tests were made with the prototype bombsight fitted in a former Belgian Farman HF.40 that had been interned on 10 November 1916. It was considered to be more suitable for the tests, and it was bought and re-registered LA37.

On 10 July 1917, 42 GM bombsights were ordered, including two for the Navy. Later, six more were ordered for a total of 48. Of these 48, 18 had a longer telescopic sight. (Note 2) The initial order cost ƒ 27.216 and the additional contracts added ƒ 10.714. Ir. Groeneveld Meijer received ƒ 500 per bombsight, receiving in all ƒ 44.000. (Note 3) At the time, the salary of the C.LVA was calculated at ƒ 2.500 a year.

Consideration was given to whether the GM bombsight would be built by the LVA at Soesterberg, but it was decided that it was best to order the bombsight from a specialized firm. The job was given to the firm of H.M. Smitt who at had an instrument making facility with a "secret" workshop near Soesterberg. (Note 4)

The optical parts were ordered from Germany and the LVA supplied some material, such as aluminum sheet. Deliveries were to be started in mid-1918, but were delayed as the optical parts were late arriving from Germany. Early in 1919, the order was completed. Once the order was completed, H.M. Smitt returned all technical documents to the LVA as was stipulated in the contract.

Tests continue on the GM Bombsight

A Caudron G.4, s/n C427, was now to be fitted with the GM bombsight, but on 1 November 1918 this plane was lost in a head-on collision with Farman HF.20 s/n HF19 over Soesterberg (all 4 crew died).

Thus, it was necessary to reverted to the HF.40 which, by that time, had been re-serialled HF801 and had to be returned to Soesterberg after having served for over a year at Vlissingen. The first operational tests were to be in December 1918 at the Oldebroek artillery range, but engine troubles and other problems prevented this. The tests finally began in May 1919, by a detachment flying Rumpler C.VIII's at Ede airfield.

The GM bombsight was also tested against a competing bombsight designed by Navy Lt. Post Uiterweer. The latter bombsight functioned better, was less vulnerable to damage, and was more reliable in tropical conditions.

Around 1925, the GM bombsight quietly disappeared from the LVA inventory and was replaced by a more conventional German-designed bombsight. While the GM bombsight was mentioned in documents, for example, the C.LVA in his monthly reports mentions the tests, progress with production, etc. However, no photos or other illustrations exist.

Groeneveld Meijer Bombsight Described

As far as can be ascertained from existing publications and contracts, the GM bombsight consisted of a (vertical) bombsight with a control box. Data required for dropping the bomb were electrically/automatically and/or manually fed into the control box. The prism of the bombsight must have been electrically coupled to the control box. The observer had to follow the target in his bombsight, and the pilot would automatically receive course corrections by a pointer or red/green lights. After feeding some data into the control box, the observer would push a button and the clockwork in the control box would activate mercury switches that, at the correct moment, would release the bombs, most likely by explosive charges in the bomb racks.

The GM bombsight proved not to be very reliable and was cumbersome to use. Most likely, the large mercury switches (long bent glass tubes) behaved as thermometers, thus upsetting the system.

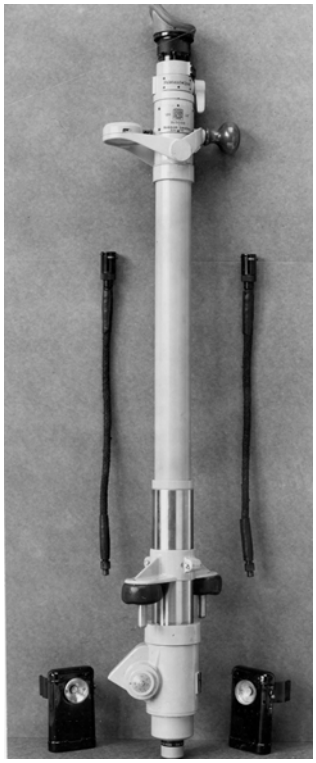
Ir. Groeneveld Meijer later Career

Ir. Groeneveld Meijer, who had been promoted to 1st Lt., returned to civilian life on 14 June 1919. He designed a mechanical bombsight, but planned tests in 1921 were not held. He then worked for some time in the Netherlands East Indies and filed a patent in the USA for an *Automatic Bomb Dropping Apparatus*. This patent was issued on 26 August 1924 with nr. 1.506.192. This bombsight was very different to his earlier designs. Later, Ir. Groeneveld Meijer had a career in industry. He died at Vevey, Switzerland, on 21 January 1981.

Notes

1.During WW I, ir. Groeneveld Meijer also filed a patent for a "scansimeter" (sinusdynamo), an instrument to measure climbing and descending speeds for aircraft. The patent was issued, but whether this instrument was built and tested is not known.

2.To illustrate what this telescopic sight might have looked like, a photo of a bombsight used by the ML is incuded. The Nedinsco was, in fact, a Zeiss Lotfernrohr (Lotfe). A similar vertical telescope was used in the GM gear. After WW1, Carl Zeiss in Jena, Germany opened a factory (Zweigniederlassung) in Holland, the Nederlandsche Instrumenten Compagnie in Venlo, which still exists and still produces top-class optical instruments etc. The German word "Lotfernrohr" can be translated as "vertical" (lot) telescope (fernrohr). The Dutch word is "bomrichtkijker" for bomb-aiming telescope.



3.In all, Groeneveld Meijer cashed in *f* 44.000, whereas the contract price for his bombsights amounted to only *f* 37.940. Most interesting! He thus was the one who had profited the most from his invention.

4.H.M. Smitt later did more work for the LVA. In 1981, the firm became part of Smitt-Nieaf BV in Utrecht, which still possesses the GM contracts.

Sources

Archives of the LVA and of Smitt-Nieaf BV

Frits Gerdessen (SAFCH #12), The Netherlands.

Riding the Magic Carpet

Martyn Chorlton

[Editor's note: This article first appeared in *Aviation Classics #5*, and is reprinted here with the permission of their editor and the author. See a review of *Aviation Classics* in the -magazine- section of this SAFO issue.]

The credit for establishing the United Kingdom's longest defence contract can be traced to ex RAF Group Captain Geoffrey Edwards. Thanks to sound advice from his bank manager at the time, Edwards set himself up as an agent in what was the developing Saudi Arabia. Living in Jeddah, he was perfectly placed to lay the building blocks for BAC to sell the Lightning to Saudi, who were not only in need of a new fighter but also a complete air defence package.

From the moment when Jimmy Dell enthusiastically displayed Lightning F2 XN730 (borrowed from 19 Squadron) in front of the king on 4 July 1964, the Saudis were hooked. To confirm the Lightning flew as well as it looked, the Saudis sent a Lt Hamdan to Warton to experience the machine for himself. After a few conversion sorties in a T4, Hamdan was let loose in F2 XN723 with an F3, on loan from the RAF, flying as chase. It appears that Hamdan got carried a little away and, after pulling away from the F3, he allegedly exceeded Mach 2.05 (in the region of 1400mph) although the Saudi pilot was actually convinced that he had reached Mach 2.5! This only served to fuel the fact that the Saudis had chosen the right aircraft and they were now impatient to close the deal. On 21 December 1965, Saudi Arabia officially announced that they had chosen the Lightning for the RSAF and were ordering 40 aircraft.

The first stage of supplying the RSAF was given the name Operation Magic Palm and this entailed the delivery of six Lightnings, six Hunters and a single battery of Thunderbird (the Army's version of the Bloodhound) surface-to-air missiles. The Lightning part of the initial order was drawn from ex-RAF F2s and a pair of T4s. These were fully refurbished at Warton and were re-designated as the F52 and T54 respectively. Modifications were very subtle to this first batch of aircraft, mainly centering around and improvement in the cooling system.

Under the guise of Operation Magic Carpet, the first aircraft to be delivered were the T54s. Both left Warton on 6 June 1966 with Jimmy Dell flying 54-650 (formerly XM989) and Don Knight at the controls of 54-651 (XN992). After making the short flight, via Wattisham, to test the aircraft's refuelling system, both aircraft left for Nicosia (owing to work being carried at Akrotiri) arriving safely on 11 June. Two days later, both aircraft set course for Riyadh and, as planned, the two T54s rendezvoused with a Valiant tanker in Jordanian airspace. As both aircraft nuzzled under each wing of the Valiant, Knight's aircraft successfully replenished its tanks while Dell's aircraft refused to take any. As 54-651 continued on its way to Riyadh, Dell had no choice but to divert to Amman in Jordan.

Escorted in by the Valiant, the arrival caused quite a stir as the Lightning taxied to a halt wearing RSAF markings. The problem turned out to be a blown fuse and, once repaired, the Jordanians insisted that the duo return to Cyprus rather than direct to Riyadh. By 16 June, 54-650 finally made it to Saudi and by 28 July, the remaining four F52s had also been delivered, without incident, to 6 Squadron, RSAF and pilot training could now seriously begin.

Show of force

One of the main reasons for the Saudis purchasing the Lightning was to help deal with the ongoing problem of insurgents along the Yemen border and to carry out interceptions of Egyptian aircraft which would regularly overfly the country. The arrival of its new airpower, despite being just six aircraft, needed showing off to its friends and foes alike and this became the priority over training new pilots.

It was during one of these demonstrations that the RSAF lost its first Lightning on 20 September 1966 at Riyadh. In the hands of Airwork pilot Peter Hay, as F52 52-657 thundered down the runway the aircraft appeared to rotate too early and, moments later, stalled and crashed. Hay managed to eject safely but suffered spinal injuries as a result of the accident which is believed to have been caused by a control restriction rather than pilot error. During May 1967, this aircraft was replaced by another F.52, 52-659, delivered by Tim Ferguson to 6 Squadron, which was still based at Riyadh at the time.

This was set to change in August 1967 when the Saudis decided to move their prized Lightning force

closer to the Yemen border. No.6 Squadron's new base was to be Khamis Mushayt which, at nearly 7000ft above sea level and with a constant crosswind problem, would create a whole new set of problems for the Lightning. The two T54s and a single F52 arrived on 7 August 1967 but, owing to those crosswinds, the remainder could not get into Khamis until a week later. The altitude played havoc with the AVPIN starters and, after only a few weeks, the squadron ran out of LOX (Liquid Oxygen). Both problems were quickly resolved and on 13 November 1966, 6 Squadron was declared fully operational. Tensions along the border grew during early 1967 but the Yemeni's increased awareness of the potential of 6 Squadron eventually eased the situation.

In the meantime, back at Warton, the contract continued to supply the RSAF with its full complement of aircraft. This reached another milestone when the first F53, ex-RAF XR722 now registered as 53-666, took to the air on 19 October 1966. Only weeks later more encouraging news for BAC and the country as a whole was received when a second contract was won to supply the 14 Lightnings to Kuwait.

Varied weapons fit

The F53 was a formidable version of the Lightning, with a capability that outstripped the RAF's single mission policy for its own aircraft. It was effectively a ground attack version of the standard F6 but, rather than being equipped with a pair of missiles, the new mark could carry a multitude of weaponry. The incredibly strong wing of the Lightning lent itself perfectly for the addition of pylons, both above and below. Those below could carry a pair of Matra Type 155 SNEB 68mm rocket pods and a novel use for the over wing pylon incorporated a JL100 pod in the front of the over wing tank, which could still carry an additional 50 gallons of fuel.

The pylons could also carry a pair of 1000lb bombs and a parachute-retarded version could additionally be fitted to the over wing pylon. This was delivered by an explosive ejector mechanism to avoid damaging the wing. The standard Red Top fit could be replaced with a Microcell unguided rocket pack or a day or night reconnaissance tray. Day fit used five 70mm cameras while the night fit used an infrared line scanner which was illuminated by photoflashes carried on the pylons. A pair of 30mm Aden cannons were also fitted into the front of the ventral tank, a design feature that was later modified into the RAF's own F6s. All this made the F53 an exceptional all round aircraft and the first of 34 aircraft was delivered to the RSAF from July 1968.

The Saudis also ordered half a dozen T55s which, in many people's eyes, was even more capable an aircraft than the F53. With the ability to carry the exact same weapon loads in various configurations, the T55 had the obvious added advantage of being able to carry two crew, one of whom could act as a weapons operator. The first T55, 55-710, took to the air from Warton on 21 October 1966 only to be written off in a landing accident on 7 March 1967.

With Jimmy Dell instructing on behalf of BAC and Airwork pilot Peter Williams, they began the sortie with a strong wind blowing across the runway, just within limits. They had been informed by the Met office that the wind would not only decrease, but change to blow down the runway. When they returned to Warton, the wind was still across the airfield and Dell estimated it to be gusting between 40 and 45 knots. With no chance of diverting the Lightning, now with Jimmy at the controls it slew down the runway with tyres bursting and very little chance of keeping the machine on track. Now on the grass, the nose leg dug in, struck a concrete plinth and, with the intake burying itself into the ground, caused the forward fuselage to partly break off at the pressure bulkhead joint. Jimmy was still in his seat but Williams was nowhere to seen. He was eventually found under the port wing, alive and still in his seat!

Under the banner of 226 OCU at Coltishall, the first batch of RSAF T55s headed for Norfolk and it was here that the vast majority of future Saudi Lightning pilots were trained. The first arrived in September 1967 and remained until they left for Saudi in 1969, destined to serve with the LCU (Lightning Conversion Unit) at Dhahran for the rest of their careers. By mid-1969, all of the F53s had been delivered and by now the RSAF could boast 2, 6 and 13 Squadrons all operational on the Lightning.

The Yemen problem rumbled on into 1970 and, only a few days before peace was declared, the Saudis lost their only Lightning of the conflict. F53 53-697 was flying a recce operation when, close to the Yemeni border, the jet was hit by ground fire, forcing the pilot to eject. Only one F53, 53-690, was not

delivered to Saudi owing to the fact that J Cockburn had to eject from it after total control failure on 4 September 1968. Its replacement was 53-700 which arrived in Saudi on 4 September 1972, becoming the last ever production Lightning built.

Sowing the seeds for success

The majority of the RSAF Lightnings enjoyed long and healthy careers, accumulating many thousands of hours between them. However, 18 would eventually be lost in accidents while the remainder continued to serve into the 1980s. In January 1986, the RSAF withdrew the Lightning from service and, with plenty of oil revenue to play with, went hunting for a replacement. Eventually, another deal was struck with BAe to provide various aircraft and remove the surviving Lightnings back to Warton. In an operation reminiscent of Magic Carpet, 22 aircraft with Victor tanker support en route returned to Lancashire during January and February 1986. It was hoped that the jets could be refurbished and offered either to Denmark or Austria. Both deals fell through and all of the aircraft were offered either to museums or any other interested parties.

In contrast to the Saudis, the marriage between the Lightning and the Kuwaiti Air Force (KAF) was not a happy one. After receiving its order of a pair of T55Ks and a dozen F53Ks, the first arriving in December 1968, the aircraft were operated from the country's international airport. Constant civilian operations often disrupted the military flying and the Kuwaitis decided that two brand new air bases should be built at Ahmed al Jaber and Jakra. After the huge expense of building these new airfields, neither were found to be suitable for the Lightning, both being poorly equipped and lacking the infrastructure that this complicated aircraft needed. After struggling to keep their small force in the air, the Kuwaitis offered their aircraft for sale in 1973. Only the Egyptians showed an interest and this soon faded when they were told how much it would cost to get Lightnings back up to a decent standard of serviceability. The KAF continued to fly the Lightning until 1977 when they were all grounded and replaced by the Mirage F1K. Now down to just eleven surviving aircraft, these languished at the airport until they were further reduced when Iraq invaded in 1990 and several were destroyed in at least one air raid.

Both in Saudi and Kuwait, several aircraft have been preserved and, thanks to that influx into Warton in the late 1980s, several more survive in the UK. While the Saudi Lightning contract never yielded any great profit for BAC at the time, future defence projects have proved advantageous to the UK economy and under the 'Al Yamamah' still continue to this day. The Lightning may not have been an export success but, to achieve such a lucrative and long lasting Middle Eastern deal, can be considered as success enough.

Saudi EE Lighting F53 XR770 53-770 on a test flight out of Salmesbury.
(via Tim Callaway of *Aviation Classics*)

Kuwaiti EE Lightning T.55K '410' (via Tim Callaway of *Aviation Classics*)

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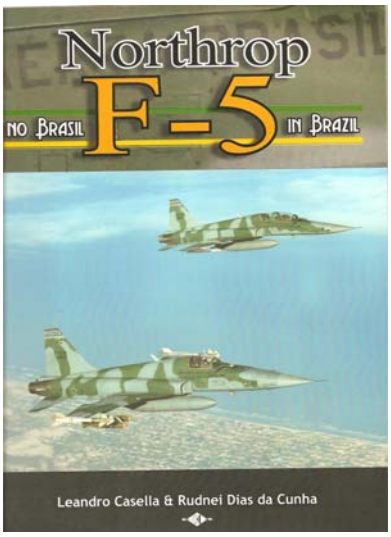


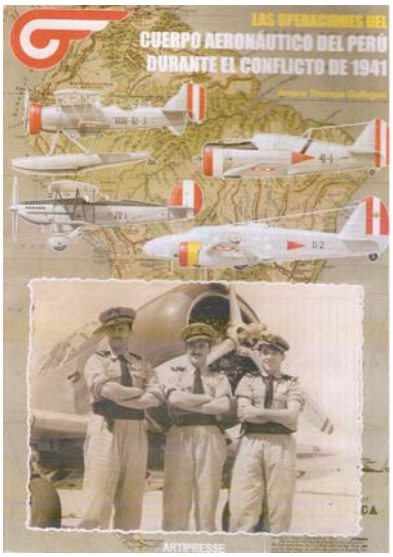
Northrop F-5 in Brazil, by Leandro Casella and Rudnei Dias da Cunha. Portuguese (Brazilian) and joint English text and photo/illustration captions, 176 pages, softbound, 283 color photos, a small number of black-and-white photos and not less than 206 color drawings. Size 11 3/4 inches by 8 3/4 inches. Contact the co-author at rudnei.cunha@gmail.com for sale price and availability.

Although this will unquestionably go down as the definitive history of the F-5 series in Brazilian service to the date of publication, this absolutely beautiful volume is in actuality a history of the entire F-5 series. The introductory chapters are an excellent history of the series from conception through deployment, with very good coverage of subsequent world-wide usage. Most of this has been covered in other publications, but they have included some excellent photos and data tables which essentially brings everything up to date from the last known F-5 publications that I am familiar with.

The authors have produced an exquisite historical contribution that, with the turn of every page, reveals ever more breathtaking imagery that will positively make you smile. The quality of the reproduction of the images is very high and, together with the plethora of side, top, and plan views of various schemes, the authors have included a multitude of detail drawings, insignia placement diagrams, details of ordnance colors and markings that make this a truly complete history. There are numerous tables details information that will satisfy the 'numbers bashers' amongst us including an aircraft-by-aircraft detailed summary. The range of color schemes worn by FAB F-5s is amazing, and the numerous 'special' and anniversary schemes - most of which have only been seen in local Brazilian publications - will surely provide modelers with some award-winning subjects.

I cannot give this wonderful piece of historical literature anything but the very highest praise, and for those looking for an example of the very best of what SAFO has been promoting for some 35 years, this certainly ranks among the very best.

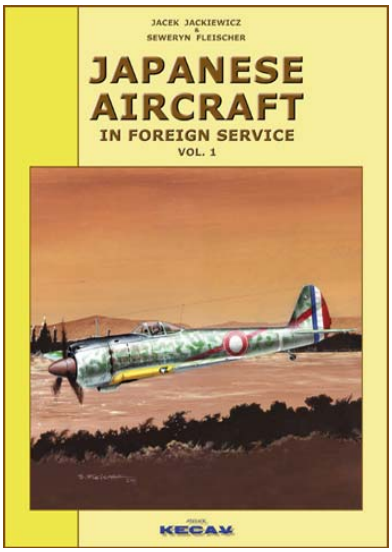
Dan Hagedorn (SAFCH #394), USA.



Las operaciones del cuerpo aeronautico del Peru durante el conflicto de 1941, by Amaru Tincopa Gallegos. A4 size, soft cover. 56 pages with 99 b&w photos, 6 maps, and 24 colour drawings. Published by Editorial Artipresse in Bagnolet, France. ISBN 978-2-919231-04-1.

I discover this book on Scale Model World 2011 and it was an automatic reaction to buy it. Written entirely in Spanish, it deals with the air war aspect of the conflict between Peru and Ecuador in July 1941. First, the order of battle of both air forces is dealt with - more detailed for the Peruvian one, as the book is written "from this side", but also because there was not much of an Ecuadorian air force. Then a day-to-day account follows, plus an epilogue, a bibliography, and some notes. But the best part is the photos, not only of a/c but also of flying and ground crews, and the coloured side-views, all of Peruvian subjects. Aircraft featured are, among others, North American NA-50, Douglas 8A, Fairey "Fox", Caproni Ca.111 (can it be converted from the new Ca.101 kit?), Curtiss "Cyclone Falcon" and Junkers Ju52. My favourite is the Grumman "Goose" in basically natural metal. Reading the text is, admittedly, difficult, but does this matter?

Nils Treichel (SAFCH #1467), Germany.



"I have just been to a Model Show locally and came back with a copy of *Japanese Aircraft in Foreign Service Volume 1* by Jacek Jackiewicz and Seweryn Fleischer. Published in Poland by Atelier Kecav and on sale here for around £26-00.

"It has photos and side views of Japanese Aircraft in service with just about every country other than those of the USA and UK/Commonwealth forces - not just captured but those sold by the Japanese. Countries covered are: Nationalist and Communist Chinese, Kwangsi, Nanking, Manchukuo, North and South Korea, Indonesia, Thailand, Soviet Union, and France.

"Although some of the photos are, to say the least, not best quality, their rarity makes up for it and the interpretation into artwork seems to be accurate as far as I can judge."

Malcolm Barratt (SAFCH #1716), UK.

[Editor's note: I checked out their website: www.kecay.com, and found it

very informative with thumbnails of 20 pages with color illustrations. As an example of the coverage, I'll list the a/c illustrated in the thumbnails. These thumbnails are in low resolution and I could not read the text, so I'll use Allied code names and hope I get it right. Soviet: Nate, Dinah; Nationalist China: Zero, Ann, Ida, Tojo, Nate, Francis; Kwangsi: Ni-29; Communist China: Ida, Nate, Tojo; Manchukuo: Nate, Oscar; Thailand: Ann, Oscar, Dave; South Korea: Spruce; North Korea: Oscar, Ida; and Indonesia: Oscar, Willow; France: Ann, Ida, Topsy, Oscar, Francis, Jake.

"English text, soft cover, 128 pages, over 300 photos, 187 side profiles and color plates." Price: $49.90 including p&p by standard surface mail. They have dealers in many countries – in the US and Canada order from sale@airconnection.on.ca. For other countries check their website.]

Lockheed K/C-130 Hercules, Jorge F. Núñez Padín & Juan C. Cicalesi. Serie Fuerza Aérea #20. 48 A-4 pages. Landscape. Softbound. (2011) E-mail: jfnpadin@yahoo.com.

This is the latest book from our Argentine friend, Jorge F. Núñez Padín. It continues in the excellent tradition of his publications – well-researched text (in Spanish), and gorgeous color photos and profile drawings printed on high-gloss paper.

Sixteen members of the Hercules family served with the Fuerza Aérea - C-130B (5), C-130E (3), C-130H (6), & KC-130H (2). The KC-130H tankers played a crucial role in the air war over the Malvinas refueling Argentine fighter/bomber on their way to and from the islands. In one of the most infamous events of the war, 'TC-68' participated in the bombing of the neutral oil tanker *Hercules* on 20 June 1982. There are photos and a 2-page color profile drawing of 'TC-68' carrying an external load of 250 kg bombs. [Editor's Note: A bomb-carrying C-130 would make a unique addition to any collection of models.]

As usual, the text is in Spanish: Historia (11 pages), Malvinas (4 pages), Tecnica (4 pages), Identidades (2 pages), and Colores & Insignas (1 page). In all, there are 43 color photos, 48 b& w photos, 9 color profile drawings, and one color top-view drawings.

Lockheed K/C-130 Hercules, Serie Fuerza Aérea #20, is highly recommended to all enthusiasts of Latin American aviation. It is available from the SAFCH Sales Service for $25 plus postage.

Sikorsky S-55/H 19 & S-58/T, Jorge F. Núñez Padín & Juan C. Cicalesi. En Argentina #6. 40 A-4 pages. Landscape. Softbound. (2011) E-mail: jfnpadin@yahoo.com.

Twenty-seven members of the S-55 family served with the Argentine Aviación Naval (13 S-55, UH-19, SH-19), Fuerza Aérea (S-55, H-19, S-58), and Helicópteros Marinos SA (H-34, S-58, HUS-1).

Many of the Aviación Naval helicopters served in the Antarctic carrying attractive high-visibility color schemes that are well-illustrated in this book with color photos and profile drawings. [Editor's Note: Decals for Sikorsky S-55 Gruppo Aeronaval Antartico Argentine Navy '4-H-13' are included on Max Decals 7222 which was reviewed in SAFO #140.)

The chapters are: Historia S-55 Aviación Naval (6 pages), Fuerza Aérea Argentina (3 pages), Historia S-58 Aviación Naval (1 page), Fuerza Aérea Argentina (1 page), Helicópteros Marinos SA (1 page); Operaciones Antarticas (4 pages); Tecnica (3 pages); Historias Individuales (3 pages); Colores & Insignas (1 page).

In all, there are 7 color profiles, 13 color photos, and 69 b&w photos.

Sikorsky S-55/H 19 & S-58/T, En Argentina #6 is recommended for all lovers of rotary-wing things. It is available from the SAFCH Sales Service for $20 plus postage.

Nieuport-Delange Ni-D 29 & Ni-D 62 family, José Fernandez. A-4, 96 pages, softcover. (2011) MMP Books French Wings #2. English text. ISBN 987-83-612421-21-4. $23.00.

MMP Books is releasing José Fernandez's series. *French Wings* in English-language editions. This second in the series should be of great interest to small-air-force enthusiasts since both the Ni-D 29 and Ni-D 62 saw extensive use in small air forces.

The first 18 pages deals with the Ni-D 29. This, the ultimate WWI fighter design, arrived too late to serve in the "War to End all Wars". It did receive it's baptism under fire in 1925 during the Riff War.

However, it did see extensive service in the 1920s and 30s. The following is a summary of the coverage in the book using the following code (pages, photos, profiles, 2-view, 3-view).

France(15, 8, 8, 1, 1); Belgium (4, 8, 3, 0, 1); Italy (4, 7, 4, 0, 1); Spain (3, 5, 0, 0, 1); Argentina (1, 1, 0, 0); Sweden (4, 8, 2, 0, 1); Japan (5, 14, 1, 0, 1); China (1, 2, 1, 0, 1); Siam (2, 4, 1, 0, 1).

The remainder of the book is devoted to the complicated Ni-D 62 family. The following summary uses the same code as below, and includes the identification

of the type used: France Ni-D 622 (24, 45, 14, 1, 5); Romania Ni-D 72 (3, 4, 0, 0, 1); Brazil Ni-D 72 (2, 1, 0, 0, 1); Spain Ni-D 52 (23, 20, 7, 0, 4); Belgium Ni-D 72 (1, 1, 0, 0, 1)

The only kits of the Ni-D 62 family I know of are 1/72-scale Ni-D 622, which, unaltered, limits the modeler to building a French Force Aérienne de Terre or Aéronautique Navale aircraft. However, the difference among versions is slight and, using the profile drawings, the accomplished modeler should have little trouble modeling any of the other variants. The most extensive modification is for the Spanish Hispano-Nieuport 52; it requires a reshaping of the lower wing – the book provides a 1/72-scale drawing of the new shape.

This book is lavishly illustrated with photos and color drawings. At first glance, it looks like a picture book, but there is abundant text to make it a first-rate reference source. It is highly recommended for any aviation enthusiast's library.

French Wings #1, Latécoère 290 & 298 is also available in English from MMP Books.

MMP Books has provided the SAFCH with a large number of books to review – too many for one issue. Watch future issues of SAFO for reviews of exciting new books from MMP.

"Late in 2011 a book appeared in Estonia: Põhjakotkad (Northern Eagles), by Toivo Kitvel, Toomas Türk, and Arvo Lennart Vercamer. 496 pages, 18x24cm.

"It describes all Estonian pilots up to 1940, most with a photo. It is entirely in Estonian, but this is not a disadvantage considering the price: € 16,31. Postage to Britain is € 5,11, less for the continent, likely more for the world. It gives organisation tables. Arvo Vercamer, who has an Estonian mother (and Belgian father), made a number of the side views.

"Order from: Bookshop Krisostomus, PK 299 (Post Kast = P.O.Box), 51002 Tartu. Address: Raekoja plats (Town hall square) 11, 51007 Tartu."

Frits Gerdessen (SAFCH #12), Netherlands.

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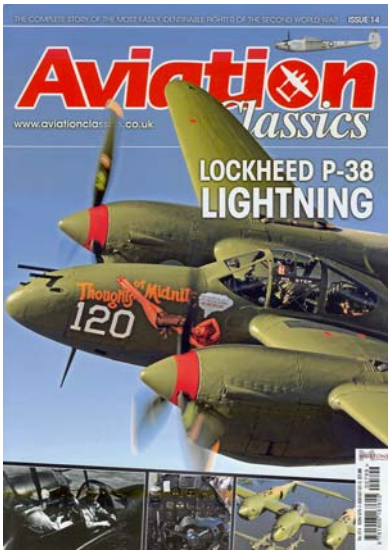

[Editor's Note: Published every other month, each issue of Aviation Classics is devoted to a single aircraft type or event, such as the Lockheed P-38 Lightning or the Battle of Britain. As an example, the contents of the latest issue are described below. Earlier issues are listed in the abstracts section of this SAFO. As can be seen from the chapter list of issue #14, in the abstracts, it is practical to list only the articles of small-air-forces interest .]

Aviation Classics #14, Lockheed P-38 Lightning. 132 A-4 size pages.

"Building a Legend - The company and men behind the machine" "Tricycle and twin - defining a classic" "Testing and compressibility – developing the prototype" "Fine tuning & first production - The P-38D, E and F" "Into service - Australia, the Aleutians and Europe" "The French and British orders" "Higher, faster & further: the P-38G, H and J" The Pacific and China, Burma and India" "Tony LeVier" "Flying with Allisons" "Allisons Again - flying on the water" "The ultimate Lightnings - The P-38K, L and M" "Europe and the Mediterranean" "Beyond the Lightning" "Ace of Aces - Richard Ira Bong" "The lost P-38 photo reconnaissance pilots – Adrian Warburton" "P-38 Lightning over Italy" "Glacier Girl" "Lockheed night fighter Lightning – The P-38M" "The lost P-38 photo reconnaissance pilots – Antoine de Saint Exupéry" "Inside the Lightning" "Postwar air forces" "From White Lightnin' to Red Bull" and "Survivors".

This should give you an idea of the breath of the coverage. Each chapter is packed with photos (many in colour) and colour profile drawings (12 in this issue).

As an example of the depth of coverage, the chapter on "Post war Air Forces" describes the wartime use of the P-38 by Australia, Free French, captured P-38 used by Germany and Italy, Portugal, and the Soviets. Post war use includes Italy, Nationalist China, Dominican Republic, Cuba, and the CIA-backed "Liberation Air Force". There are no photos in this chapter, but there are colour profile drawings of P-38 in the markings of China, Dominican Republic, and Honduras. There is a lot of information packed into just two pages.

For a more detailed look at the quality of information found in Aviation Classics, see the article on Saudi and Kuwaiti EE Lightnings reprinted elsewhere in this issue of SAFO.

The address and cost details are available on their website: www.aviationclassics.co.uk. This website also information ordering printed or on-line issues. The editor, Tim Callaway, can be contacted at editor@aviationclassics.co.uk. Aviation Classics is available in the US through Barnes and Noble at $14.99.

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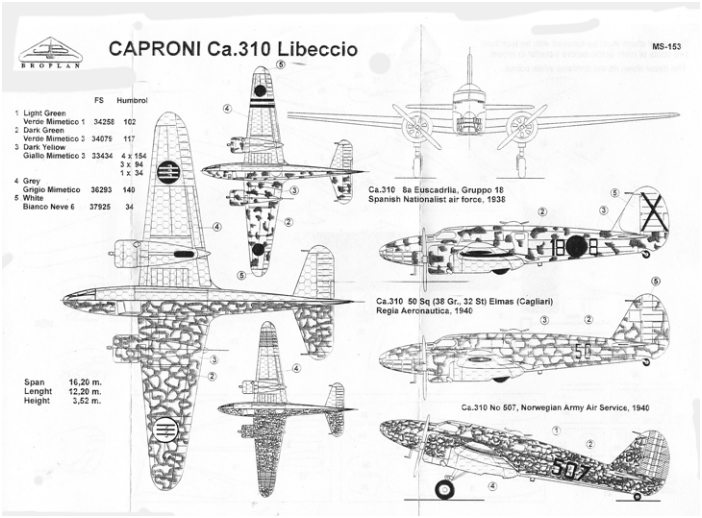
Recently received from Janusz Brozek (SAFCH #1297) are four of his recent **Broplan** kits – two injection molded and two vacuformed. These kits are up to the high quality expected from Broplan; with nicely-detailed injection-molded and vacuformed parts, excellent decals, and informative instruction sheets. Furthermore, the choice of subject couldn't be more exotic. An interesting addition on the boxes for the injection-molded kits is the notice, "For experienced modelers only". Note than for all kits: "The decal sheet must be sprayed with no less than two coats of clear acrylic before transfer to model" and "The national insignia placed over white base." Janusz tells me that the best place to obtain Broplan kits is the Aviation Megastore in the Netherlands www.aviationmegastore.com. I found the best way to navigate this site was to ask for the model by the aircraft's full name. These kits are also available from the SAFCH Sales Service at a price equivalent to that being asked by the Aviation Megastore.



Caproni Ca.310 Libeccio, 1/72-scale vacuform kit with injection-molded parts, decals, and vacuformed clear parts. Broplan MS-153.

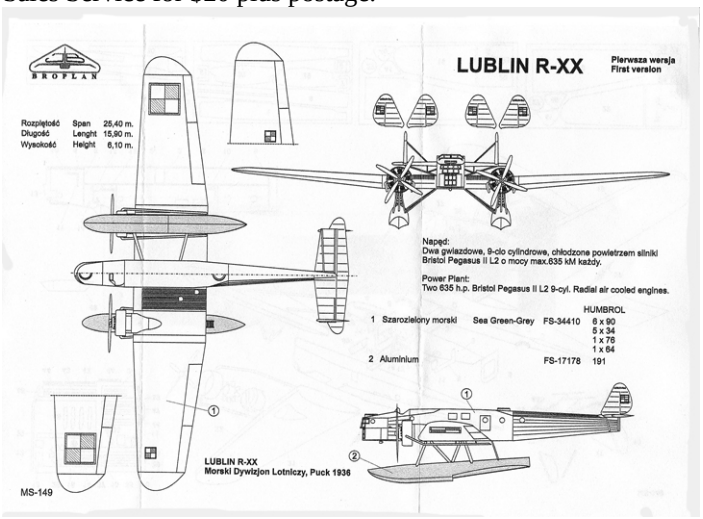
Four Ca-310 were purchased by the Norwegian Air Force in 1938. They participated in only a few missions during the German invasion. (See SAFO #55 and #57). Sixteen were sent to Spain in 1938 for use by the Aviazone Legionaria, and presumably, some of these were passed on to the Spanish Nationalists.

The main parts of the Broplan kits are on two vacuformed sheets (220 mm by 115 mm) of white styrene with exquisitely-incised panel lines on a satin-smooth surface. The plastic is on the thin side, so experience with vacuform kits is essential. The smaller parts, engines, propellers, landing gear, etc., are injection-molded on two flash-free white styrene sprues (each 60mm by 75 mm). The clear parts, cockpit canopy, glazed nose, and dorsal turret, are clear and blemish free. The frame lines on these parts are rather faint and will require a steady hand to fill in.

The decal sheet (100 mm by 130 mm) provides markings for three aircraft, Italian '50', Spanish '18o8', and Norwegian '507'. It is well printed in vibrant colors, but note the caveat mentioned above. The red, white, and blue Norwegian wing-tip and rudder stripes will save the modeler a lot of painstaking painting.

The instruction sheet is marvelous with top, side, and bottom views of each aircraft (see above) on one side, and an exploded construction view on the other. It even includes sketches of the different glazing used on each of the aircraft.

This is not an easy kit to build, and the camouflage pattern of all three aircraft will challenge even the most experienced modeler. However, the finished model will add sparkle to any model collection. The review kit is available from the SAFCH Sales Service for $20 plus postage.



Lublin R-XX, 1/72-scale vacuform kit with injection-molded parts, decals, and vacuformed clear parts. Broplan MS-149.

Designed for the Morski Dyon Lotniczy (Polish Naval Aviation Unit), the Lublin R-XX was a twin-engine torpedo bomber. The prototype first flew in 1935, and initial trials indicated good handling characteristics and an astonishing short take-off run. Because of financial mismanagement at the Lublin company, no production order were forthcoming and instead the Navy ordered six Cant Z.506B from Italy.

This kit consists of four vacuformed sheets (three 220 mm by 115 mm for the aircraft itself and one 220 mm by 55 mm for the floats) of white styrene with incised panel lines. The molding is not as excellent as on the Caproni, but still quite acceptable. The smaller parts, engines, propellers, landing gear, etc., are injection-molded on two flash-free white styrene sprues (each 60mm by 75 mm). The ladders that are a permanent feature going from the floats to the trailing edge of the wings are the finest of this types I've seen since the Huma kits. Somewhat disappointing is that the propeller blades are molded separately and have to be attached to tiny hubs.

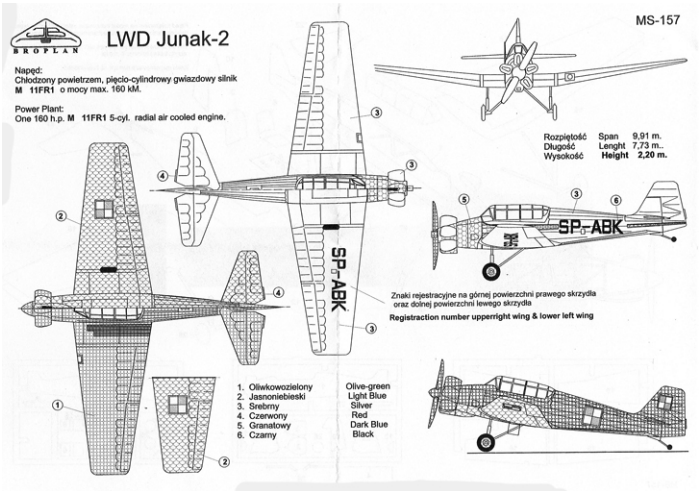
The only vacuformed clear part is the nose turret, but a small sheet of clear plastic is provided to allow the modeler to cut out the windscreen using the template provided on the instructions. Nothing is provided for the windows on the fuselage, but clear white glue would probably work here. The plastic is thin enough that clear plastic behind the windows might even be acceptable.

The decal sheet (65 mm by 50 mm) is simple, but provides 8 Polish chessboards (2 large ones for under the wings, 2 medium for above the wings, and 4 small ones for both side of the twin rudders) and "LUBLIN R.XX" inscriptions.

The instruction sheet consists of the usual Broplan exploded construction view and multi-view drawings showing the placement of all the decals. The aircraft is overall "Sea Green-Grey" and the floats are "Aluminum". I was glad to see the Polish "Sea Green-Grey" identified as FS-34410.

The Broplan Lublin R-XX is a most welcome and exotic addition to available kits of Polish aircraft. However, it is not for the faint of heart. The assembly of the floats will require a home-built jig, and the complicated strut-assembly of the tail feathers will test the patience of a saint.

The review kit of the Lublin R-XX is available from the SAFCH Sales Service for $30 plus postage.



LWD Junak-2, 1/72-scale short-run injection molded kit with decals and vacuformed canopy. Broplan MS-157.

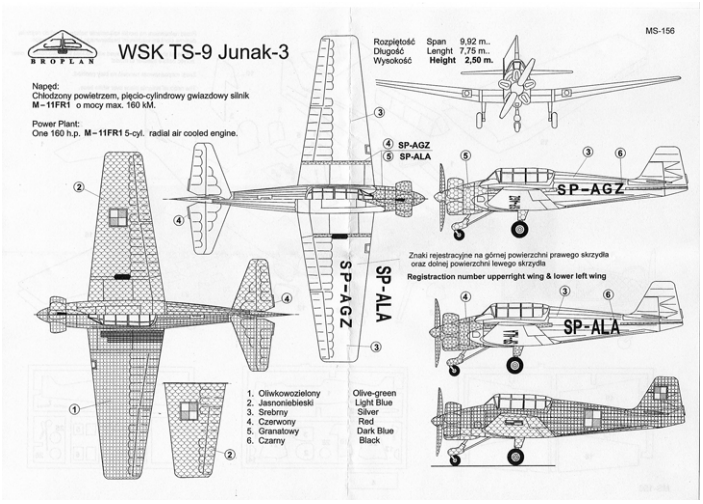
One of the first aircraft designed and built in Poland after the end of WW2 was the LWD Junak, a small training and sports aircraft. It was used both by the Polish Air Force and civilian flying clubs.

The kit consists of three sprues (each about 10 cm by 10 cm) of injection-molded white styrene with a usual flash that is found on all but the highest-quality short-run kit. The incised panel lanes and representation of the fabric control surface are well done, as are the molded-on frames on the interior walls of the cockpit. The vacuformed canopy is clear allowing a good view into the cockpit which is as Spartan as the original probably was. The sprues contain all the parts necessary to make either the tail-sitting Junak-2 or the tricycle-gear Junak-3 described below.

The decal sheet (105 mm by 35 mm) provides markings for both the military Junak-2 (in overall "Olive-Green", and an overall "Silver" civilian 'SP-ABK'. The Instruction sheet is the usual excellent exploded construction view and multi-view scale drawing.

The Broplan kit of the Junak-2 is an excellent short-run injection-molded kit that, when finished in either civilian "SP-" markings or carrying the chessboard-insignia of the Polish Air Force, will make an unique and handsome addition to any collection of models.

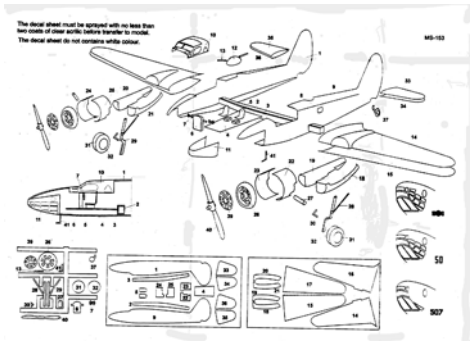
The review kit of the Junak-2 is available from the SAFCH Sales Service for $15 plus postage.

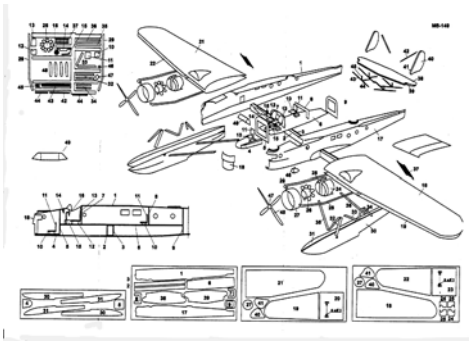


WSK TS-9 Junak-3, **LWD Junak-2**, 1/72-scale short-run injection molded kit with decals and vacuformed canopy. Broplan MS-156.

This kit is identical to that of the Junak-2 except for the tricycle landing gear and the decals. At first, I was suspicious of the fact that this kit and that of the Junak-2 had the same wings. I knew that the tricycle-gear version had to have its main landing gear further to the rear to prevent it from be a tail-sitter. However, careful study of the scale drawings on the instruction sheets of these two kits, as well as scale drawings from *Konstrukcje Lotnicze Polski Ludowej*, revealed that the position of the main landing gear on the real aircraft had just been reversed. Therefore, the positioning holes on the wing serve both versions.

The review kit of the Junak-2 is available from the SAFCH Sales Service for $15 plus postage.





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[Editor's note: SAFCH member Nils Treichel donated the following **Aztec Decals** to the SAFCH Sales Service.]

Besides being extremely interesting for their small-air-forces subject matter, Aztec Decals all have in common the following: (1) The decals are extremely well printed with vivid colors, perfect registration, and sufficient national insignia, unit emblems, codes, serial numbers, and inscriptions to make all the a/c featured in the set. (2) A 2-page all-color instruction sheet that is the most complete I've ever seen. Include are side, top, and bottom view that leave nothing to the imagination about what colors to use and where to place the decals. (3) An additional two pages of text give the history of each of the featured a/c along with "Color Conversion Tables" relating the color identified on the instruction sheets to their Federal Standard and Humbrol equivalents.

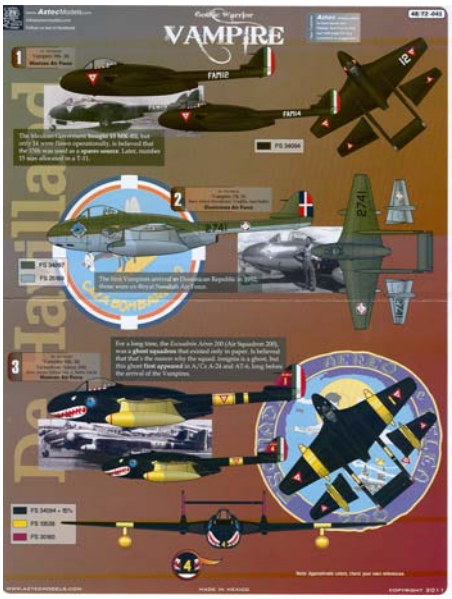
Two each of the decals reviewed below is available from the SAFCH Sales Service. For information on other Aztec decals, visit AzetcModels.com on the Internet or email: info@aztecmodels.com.

A-24 Banshee, 1/72-scale decals. Aztec Models 72-040. $10 from SAFCH Sales Service.

Aircraft covered are: Mexican (7), Coast Rica (1), & Chile (1). The number in parentheses is the number of different color schemes for the type.

An interesting color scheme is #2, a Mexican A-24 in overall aluminum, but with the starboard wing replaced by one from an USAAF A-24 in olive drab and neutral gray with the US "star and bar" insignia still on the underside. A-24 #8 is also interesting because although purchased by Costa Rica (along with two P-38 and one AT-6) it crashed while still in California and was never delivered.

The decal sheet measures 145 mm by 78 mm.

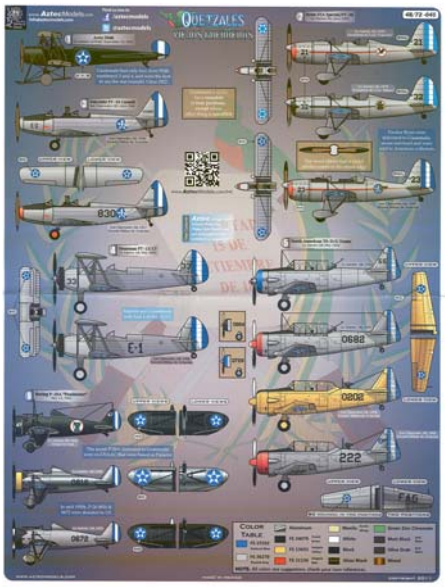


Gothic Warrior: Vampire, 1/72-scale decals. Aztec Models 72-041. $10 from SAFCH Sales Service.

Aircraft cover are: Mexican Mk.III (3) & Mk.11 (1); Dominican Republic FB.50 (2); and Chile Mk.11 (1). The number in parentheses is the number of different color schemes for the type.

Of special interest is #4, a Dominican Republic Vampire FB.50 that was used in the Civil War of 1955 to attack rebel positions in Santa Domingo. It carries a unique upper-surface camouflage of tan (FS33613) with olive green patches (FS34079). The Chilean Vampire Mk.11 is also noteworthy for it desert camouflage on the upper-surface consisting of sand (FS23695) and brown (FS10055).

The decals sheet measures 145 mm by 78 mm.



Quetzales: Vie Jos Guerreros, 1/72-scale decals. Aztec Models 72-045. Website: $15 from the SAFCH Sales Service.

Until recently, if you wanted to add a model of an a/c in Guatemalan colors to your collection, you were restricted to either a Boeing P-26 or a Ryan STA. With the release of these Aztec decals, the field is wide open. Decals are provided for 10 different types with multiple choices for each type.

Types covered are: Avro 504K (1), Ryan STA Special/PT-20 (3). Fairchild PT-19A Cornell (2), Stearman PT-13/17 (2), North American T-6D/G Texan (4), Boeing P-26 Peashooter (3), Beechcraft AT-11 Kansan (2), Beechcraft C-45 Expeditor (2), North American F-51D/K Mustang (4), & Douglas C-47 Skytrain (3). The number in parentheses is the number of different color schemes for the type.

One surprise is the national insignia on two of the Ryans: the blue is much lighter than usual and the star has six points instead of the usual five with a considerably larger central dot.

The well printed decal sheet (143 mm by 182 mm) contains all the national insignia, unit insignia, codes, and inscriptions to make more models of Guatemalan a/c that most people have the patience, or room, for.

Antarqui Decals All Antarqui decals are of good quality and are supported by attractive color illustrations and instruction sheet. Roundels, fin flashes, and serial numbers are provided for all aircraft. The instruction sheet is small, but adequate to show the placement of the decals. A recent innovation is the introduction of twin-packs that consist of two related subjects. Besides the new releases, as detailed below, Antarqui will be re-releasing older subjects in twin packs. For example, the Argentine Fiat G.55 will be paired with the Argentine Hawk 75. If you're interest in any of the single-sets, act now while supplies last.

Antarqui decals can be obtained directly from: Antarqui Decals, 757 Emory St. #106, Imperial Beach, CA 93032, USA. antarquidecals@yahoo.com, or from the SAFCH Sales Service: safo@redshift.com.

The most recent Antarqui releases are:

Fokker F-27MPA: Peruvian Navy. 1/94-scale decals.

Designed for the odd-scale Revell kit, this decal sheet (110 mm by 57 mm) features markings for each of the two F-27 acquired by the Peruvian Navy: four roundels with anchor, small flags for the vertical fin or full rudder stripes, 'NAVAL 560', 'AE 561', and 'PH-EXE'. Each of these F-27's must have carried different marking at different times and, unfortunately, the instructions are unclear; i.e. a drawings of '561' shows the numerals '561' on the underside of the wing to be on the proper white background, but on the decal sheet there are no '561's on a white background, only 'AE 561's on a grey background correct for the vertical fin. For an accurately-decaled model, it will be necessary to consult photographs of '561'. These decals cost $4.00 plus postage.

Antarqui also has for sale "wing drop tanks w/ pylons, two observation blister windows, and under fuselage Radome" for the Revell kit.

Chengdu F-7 Skybolt: Pakistan, & Sri Lanks, 1/72-scale decals.

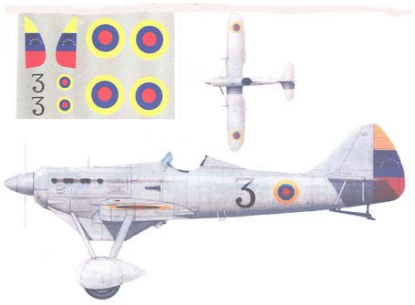
The F-7 Skybolt is the Chinese designation for the license-built export version of the MiG-21F/J-7. This twin-pack set includes decals for Pakistan '817' (30 mm by 30mm), and Sri Lanka 'CF707' (70 mm by 40 mm). The Sri Lanka F-7 is in overall light grey and the Pakistan F-7 is camouflaged medium grey and dark medium grey.

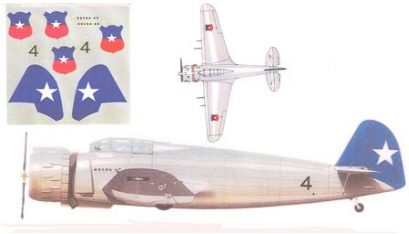
This Twin-Pack cost $6.00 plus postage

Nicaragua & Costa Rica North American F-51D.

Nicaragua operated a total of 46 Mustangs; the largest number in Latin America. The decals for the Nicaraguan Mustang measure 58 mm by 33 mm. Costa Rica obtained four Mustangs in response to the 1955 incursion by Nicaraguan-supported rebels. The decals for the Costa Rican Mustang measure 55 mm by 60 mm.

This Twin-Pack cost $6.00 plus postage





Venezuela Dewoitine D.500V & Chile Breda Ba-65. 1/72-scale decals.

Three D.500V were received by Venezuela in 1935. The decals for the D.500V measure 67 mm by 45 mm. Chile received a small number of Ba.65 in 1933. The decals for the Ba.65 measue 52 mm by 52 mm. This Twin-Pack cost $6.00 plus postage.

"Does the SAFCH have anything on the eight Interstate L-8 aircraft given to Bolivia in November 1942? I'm helping an Interstate L-6 owner put together a book on that aircraft, and as far as we know, Bolivia was the only Interstate L-8 user. (The USAAF bought 250 L-6s, but most never left the U.S.). We would very much appreciate your help…any little bit of information would be of use."
George Cully (SAFCH #672), USA.

[Editor: I passed this request on to Dan Hagedorn who provided the following information.]

"Yes, Bolivia received eight L-8A's (msn 314 to 321, issued USAAF serials 42-88658 to 42-88665) under Lend-Lease Project BL-7 (UNB No.BL.7), identified in Lend-Lease records as having been procured as Model S-1A-90Fs. The manufacturer was authorized to place temporary USAAF water color insignia on the aircraft to expedite the required 1/2 hour flight test by the CAA before formal acceptance - probably the solitary time that any L-8A ever wore actual USAAF markings. These were removed before the aircraft were crated and shipped to Bolivia.

"FAB use of the aircraft was rather disappointing; the Bolivians wanted "real" 'avions' not 'avionetta's' and felt that the US was merely patronizing them by delivering such low-powered and primitive aircraft - although the truth was that these were about all they could handle.

"Formally handed over on 23 November 1942, by 1 July 1943 two were at the main FAB operating location at El Alto (La Paz), but were still in their crates, having been damaged *enroute* while three more (also crated) were at the main training base at Cochabamba. There were also 16 other crates of parts (which were actually the remainder of the L-8As and the Stinson L-9As also delivered).

"By August 13, 1943, of the eight L-8s and eight L-9s delivered, only one each had been assembled and flown (by the USAAF mission personnel) and had been flight tested by an officer of the USAAF Mission. Not a single Bolivian had flown either. By February 24, 1944, the total flying hours amassed to that date by the several L-8As at the FAB flying school at Cochabamba came to a grand total of 53:45.

"By September 5, 1944, the FAB AOB showed a total of six L-8As on hand (of which three were unserviceable and the Bolivian Ministry of Defense had directed that 17 FAB aircraft be turned over to civil flying schools in the country, including all six of the L-8As. However, this apparently had not taken place as of December 18, 1944, all six were still reflected on the AOB, with only three operable. This remained the same as of September 21, 1945. By November 1945, the Ministry of Defense order apparently took effect, as the civil air club at Santa Cruz had four L-8As and four L-9As – the only still extant in the country.

"However, the April 10, 1946 FAB AOB showed the Boqueron School Squadron at Santa Cruz with four L-8As, so apparently they were re-introduced onto FAB strength. This was the final report of the type in the country.

"*AIR Classics* for February 1990 pp71, purported to show a b/w photo of 42-88660 in flight over Charlotte, NC, marked as "FAB 680" (owned by one Curt Cloud) following "restoration" by Doug Jeanes of Airwaves Services, Boerne Stage Airfield, Boerne, TX, but I believe this to be a complete an utter fiction.

"Despite strenuous efforts over the years, I have yet to locate a solitary photo of any FAB L-8A and FAB serials which may have been assigned are unknown."
Dan Hagedorn, SAFCH #394), USA.

[Editor's Note: The author of the article on Argentine Canberras that appeared in SAFO #140, would like to add the following comments provided by his friend Steven Benny.]

"Regarding the mission on the 1st May in which RIFLE flight was intercepted by the SHARs. This was not a CAP launched against the incoming raid specifically. Both Alan Curtis and Mike Broadwater were already on CAP, and nearing the end of their patrol when the Invincible's radar picked up the bogeys and vectored them onto them. This is of critical importance, because both aircraft ultimately did not have the fuel to pursue the other two Canberras after losing them in the clouds.

"Mike Broadwater was not actually credited with a kill. He could not say with certainty that he hit his Canberra, and despite the sighting of 'pieces falling off' he was only given a 'probable' rather than confirmed kill. Interestingly, to this day certain members of 801 NAS were still unsure what happened to this aircraft, but I assured them that it indeed made it home and was not shot down."
Pablo Calcaterra (SAFCH #1728), Canada.

"First let me thank you for your book reviews. I obtained a copy of "Eagles on Manchukuo" and couldn't have been more delighted – a fantastic book.
" Regarding the Il-14: it is best and a sign of erudition to write 'Il`yushin'. Russians use the letter 'b' for `. ИЛЬЮШИН
[Editor: This is as close as I could get using the Ilyushin website and the "Symbols" section on my computer.]

"In the April 2012 issue you had a page on the Bezobrazov triplane of WW1. This is a departure from your focus on small air forces. This aircraft is described in Evan Handingham 'The Fighting Triplanes' where he states 'The triplane, designed by Bezobrazov, was built under the direction of an Italian, F. Mosca, who owned a Moscow aircraft company.' For the best and fullest account of Mosca's aeroplanes and the Bezobrazov triplane see, Mickhail Maslov, 'Russian Aeroplanes 1914-1918' Icarus Aviation Publications, Old Saybrook, CT, 2002, ISBN 0-9724527-0-2."

Denys Voaden (SAFCH #1483), USA.

[Editor's response: Regarding 'Ilyushin': for consistency, I use the spelling for all aircraft companies found in 'Complete Illustrated Encyclopedia of the World's Aircraft' edited by David Mondey (1978). The term 'small' in SAFO refers not only to air forces with a small number of aircraft, but all to air forces that are under represented in the English language literature. Under that latter definition, Russian WW1 aircraft fit the bill.]

"Some comments on SAFO #140: The Falklands War item was most interesting as we in the UK mainly get

our version of events.

"On less controversial ground, the Dutch emergency bomber item is an eye opener - I knew that the Trimotor was allegedly capable of being converted, but some of the others are a bit 'way out'. Now a 1/48 Trimotor - that would be a treat t

"The North Korean air force and the use of Japanese aircraft on both sides continue to. bemuse - the Spruce item will be forwarded to a friend who specialises in such arcane matters.

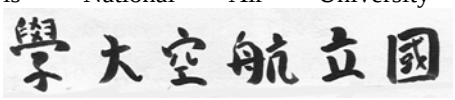
"A pity LeifHellstrom's article qualifies as a 'what if' as that FAC Cavalier Mustang looks very tasty to this modeler!"
Malcolm Barratt (SAFCH #1716). UK.

"On the back cover of the April issue (#140), are two photos of MiG-9 in Beijing. The caption for 86104 says it is on display at the Chinese Armed Force Museum at Beijing. This is not correct. The correct place is the Beijing Aviation Museum of the Beijing University of Aeronautics and Astronautics (Now called Beihang University).

"I have been to that museum twice. Attached please find the photo I took on Sept. 23, 2006. I think the painting was some sort of student graffiti. The code '86104' is pink and the stripes from back to front) are pink, yellow, and green.]"
Clarence Fu (SAFCH #884), Tiawan.

"Regarding SAFO #140: The continuing Korean saga - interesting pixs. Note the North Korean photo #2 shows varying proportions of fuselage roundel rings. Speaking of roundels, on page 112, markings on CAP (Civil Air Patrol, USAAF Auxiliary plane. The white triangle should be on blue, not black. Blame old, too dark color photo. During WWII, CAP planes seem to have bright color scheme; yellow and orange, with or without blue. Roundels in AF positions on wings, w/ civil codes opposite. Modern CAP planes usually white. Some with standard USAF "
Ted Koppel (SAFCH #118), USA.

"The Ki-9 on page 134-136 in SAFO #140 is a 'Tachikawa', not 'Takichawa'. The inscription on the North Korean Ki-9 is 'National Air University'"



Yoshihiro Aoyama (SAFCH #551), Japan.

"Today I got an e-mail from Koloman Mayrhofer with photos of the maiden flight of his Albatros D.III (Oef) with Austro-Daimler engine in Schleißheim, Germany. The flight trials will be held in the next few months and they will end probably between 15th and 22nd July this year. All interested photographers and eyewitness are welcome. For further details of the weather, the flying conditions, and the possibilities of flying between the 15th and 22nd July send Koloman an e-mail."
Rudolf Hoefling (SAFCH #1590), Austria.

"Warbirds, Vol. 34:8 (December 2011). 'European Warbirds' includes a photo essay of European restored military aircraft, including aircraft in French, Belgian, Swiss, Dutch, British, and Soviet colors."
Alan Hawk (SAFCH #721), USA.

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"I would appreciate if you could spread the word that I am gradually closing down the publishing business after my retirement. I am selling off the remaining stocks of books at discount up to 70 % and offer: **Finnish Air Force History** books (B5 175x250 mm) at 10 euros apiece (regularly 24-32 euros). **Finnish Air Force** books (A4 210x297 mm) at 15 euros apiece (regularly 49 euros) Plus p&p at cost and subject to availability. Please ask for a quote. Payment by Paypal or in EU, bank transfer. More information at www.kolumbus.fi/kari.stenman."
Kari Stenman, Finland.

"I have had a serious approach from Crecy Publishing on a new book on insignia. They require photos to go with the text and artwork. They said they could supply some, but they are obviously at a loss for Maldives and Equatorial Guinea! Can you place a request in the next issue of SAFO? I need free use (with suitable acknowledgement of course) or very reasonable cost. Looks like I may need up to 300). Anyone who would like to help, contact me at: jcochrane2@gmail.com."
John Cochrane (SAFCH #905), England.

"I am looking for information on the camouflage and markings of the T-33 in Sandinistan service. I recall a 1/48 scale (Hobbycraft?) kit with these, but now cannot find the kit. I would be happy to have a copy of the instructions from it. Any help would be appreciated."
James Wilcox (SAFCH #710), Canada.
jwilcox@partnersinlaw.net

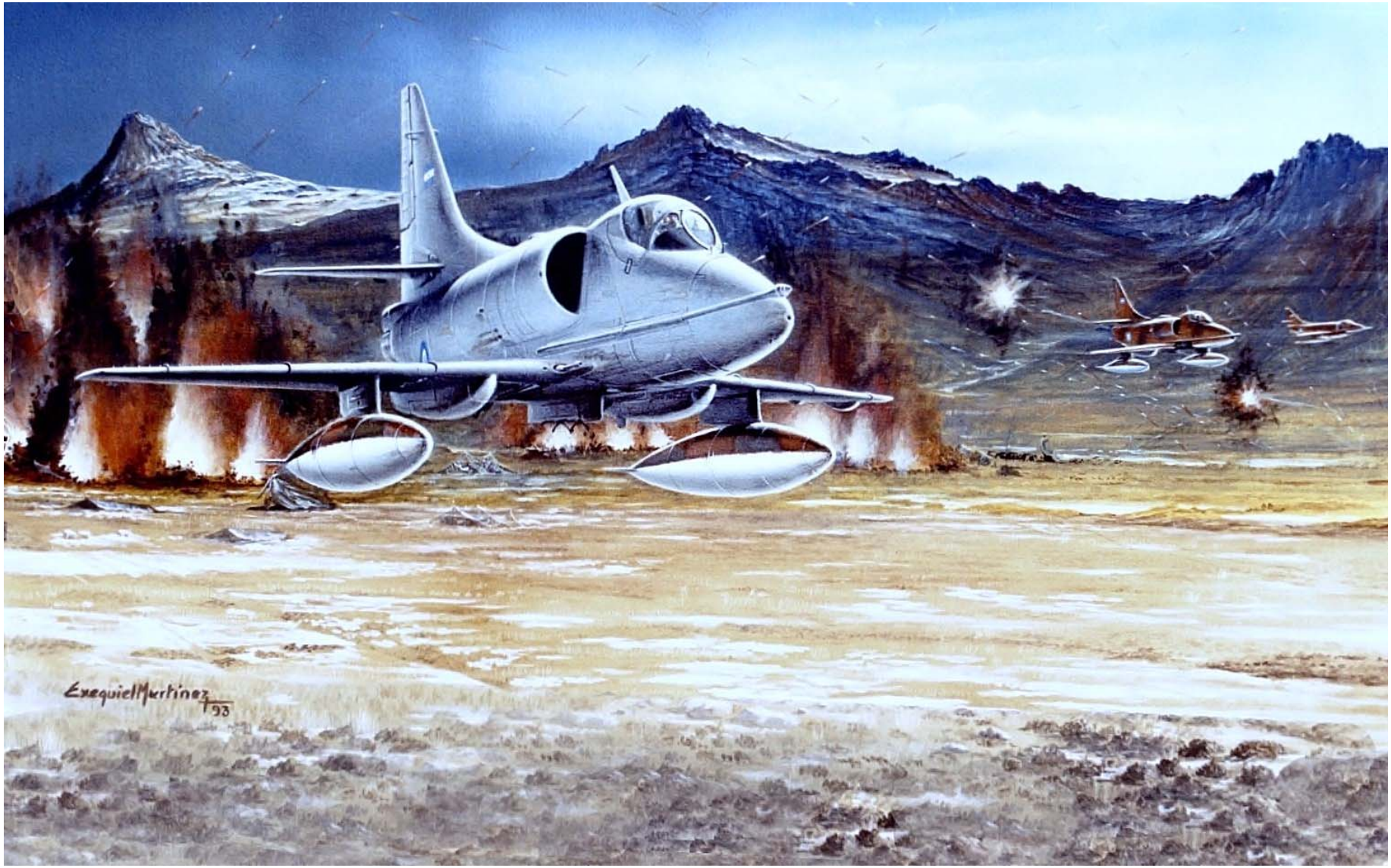
"I have Max Decals #72-002, *Irish Air Corps 1938-1948* for sale, but I've lost the instruction sheet, and Joe Maxwell says he no longer has a copy of this instruction sheet. This is a great decal with insignia and markings for such aircraft as Gladiator, Hurricane, etc. If anyone has the instruction sheet for this decal, I would like a copy so I can make this sheet available through the SAFCH Sales Service."
Jim Sanders, safo@redshift,com

An RSAF McDonnell Douglas F-15C Eagle formates with BAC Lightning F.53 53-228 during No. 6 Squadron's conversion in 1981. Forty Lightnings (34 F.53s and six T.55s) equipped 2 and 6 Squadrons from 1968 to 1982, when the latter's F-15 conversion resulted in the remaining Lightnings being gathered in the former (although 13 Sqn was also known to use a few). (Doug Dildy/Y2B Publishing Archives)

Four years later the 22 surviving flyable RSAF Lightnings were traded back to BAC towards its purchase of Panavia Tornadoes. Unable to find buyers for these second-hand jets, most went to UK air museums, such as two-seater 55-713 which is displayed at the Midland Air Museum, Badinton, England. It is the only T.55 in the UK displayed in its original RSAF markings. (Doug Dildy Collection)

The Kuwaiti AF acquired a dozen F.53Ks (serialed 53-412 through 423) and a pair of T.55Ks (55-410/411) in 1969, 53-418 (with G-AXEE civil registration and bogus "510" KAF serial) being used as a company demonstrator shown at that year's Paris Air Salon – along with an outrageously optimistic collection of possible ordnance that, on a good day, might be carried! (BAe Systems)

The Kuwaiti Lightnings lasted only a few years – the KAF had overestimated its ability to maintain such a complex aircraft – and by 1973 most were grounded and offered for sale to Egypt. Four years later they were replaced by Dassault Mirage F.1s. The former BAC "company demonstrator" 53-418 now resides forlornly outside the Kuwait Educational Science Museum in Safat, Kuwait City. (Air Britain Photo)



Tordillo leading the attack.

Capt. Carlos Varela, in A-4B Skyhawk C-222 “Tordillo”,
leads the Argentine Air Force’s 5th Air Brigade attacking British positions north of Puerto Argentino, Malvinas, June 13 1982.

Painting by Capt.(res) Exequiel Martinez